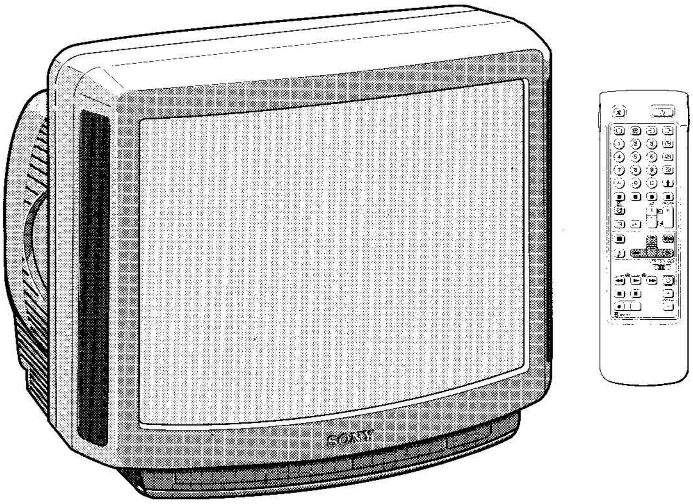
SERVICE MANUAL

AE-2B CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-X2971A	RM-831	Italian	SCC-G59A-A	KV-X2973E	RM-831	Spanish	SCC-G56A-A
KV-X2971B	RM-831	French	SCC-G57A-A	KV-X2971K	RM-831	OIRT	SCC-G73A-A
KV-X2971D	RM-831	AEP	SCC-G45A-A	KV-X2972U	RM-831	UK	SCC-G55A-A



MICROFILM

TRINITRON® COLOR TV

SONY®

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
Italian	B/G/H, D/K	GERMAN Stereo	ITALIA VHF:A-H2 (C) UHF: 21-69 PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K L, I	GERMAN Stereo	L VHF:F02-F10 UHF:F21-F60 CABLE:B-Q B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 I UHF:B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	GERMAN Stereo	B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	Italian	French	AEP	Spanish	OIRT	UK
Power Consumption	112W	125W	130Wh	133Wh	130Wh	186W

SPECIFICATIONS

Picture Tube	Super Trinitron Approx. 72 cm (29 inches) (Approx. 68 cm picture measured diagonally) 110° -deflection

Input/Output Terminals

[REAR]

⊖-1 21-pin Euro connector (CENELEC standard)
- inputs for audio and video signals
- inputs for RGB
- outputs of TV video and audio signals

⊖-2/⊖ 2 21-pin Euro connector
- inputs for audio and video signals
- inputs for S video
- outputs for audio and video signals (selectable)

⊖ Audio outputs (variable) - phono jacks

[FRONT]

⊖3 Video input - phono jack

⊖ Audio inputs - phono jacks

⊖3 S video input 4-pin DIN

Ω Headphone jacks : stereo minijack

Sound output	2 x 12W (RMS) 2 x 30W (Music)
Power requirements	220 - 240V
Dimensions	Approx. 676x557x528 mm
Weight	Approx. 48kg
Supplied accessories	RM-831 Remote Commander (1) IEC designation R6 battery (1)
Other features	NICAM , FASTEXT.

[RM-831]

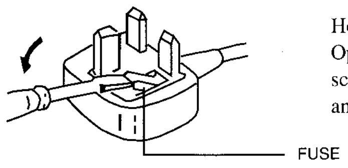
Remote control system	infrared control
Power requirements	1.5V dc 1 battery IEC designation R6 (size AA)
Dimensions	Approx. 65x225x21 mm (w/h/d)
Weight	Approx. 157g (Not including batteries)

Design and specifications are subject to change without notice.

Model name Item	KV-X2971A	KV-X2971B	KV-X2971D	KV-X2973E	KV-X2971K	KV-X2972U
Pal Comb	OFF	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	OFF	OFF	OFF	OFF
Woofer Box	OFF	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF
Dyn. Convergence	OFF	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	OFF	ON
Norm D/K	ON	ON	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF
Language Preset	Italiano	Francais	Deutsch	None	OIRT	English

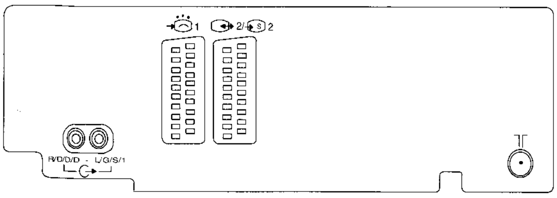
WARNING (KV-X2972U only)

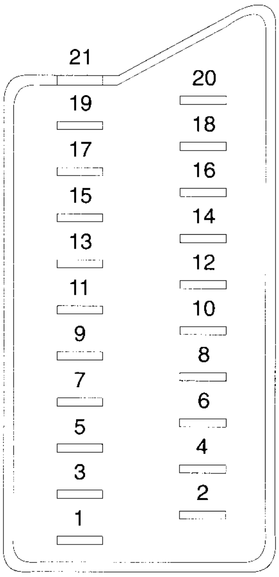
The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the ASTA mark.
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR YOUR SOCKET OUTLETS IN YOUR HOME. IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE SOCKET OUTLET.
When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



How to replace the fuse.
Open the fuse compartment with the screwdriver blade
and replace the fuse.

21 pin connector (-1 2 / 4)

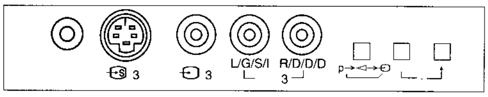




Pin No.	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedance :More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance :More than 10kohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More than 10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 ± 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground(blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) croma input	0.3 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75ohms
17	○	○	○	Ground(video output)	
18	○	○	○	Ground(video input)	
19	○	○	○	Video output	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
20	○	—	—	Video input	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
	—	○	○	Video input Y (S signal)	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
21	○	○	○	Common ground (plug, sheild)	

○ Connected ● Not Connected (open) * at 20Hz - 20kHz

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm , positive Sync. 0.3V -3/+10 dB
4	C (S signal) input	0.3V ± 3dB 75 ohm , positive Sync.



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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLIMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÈ LORS DE TOUT DÈPANNAGE. LE CHÁSSIS DE CE RÈCEPTEUR EST DIRECTEMENT RACCORDÈ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS Á LA SÈCURITÈ !!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÈMAS DE PRINCIPE, LES VUES EXPLOSÈES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÈCURITÈ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÈRO DE PIÈCE EST INDIQUÈ DANS LE PRÈSENT MANUEL OU DANS DES SUPPLÈMENTS PUBLIÈS PAR SONY.

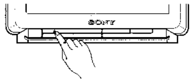
SECTION 1
GENERAL

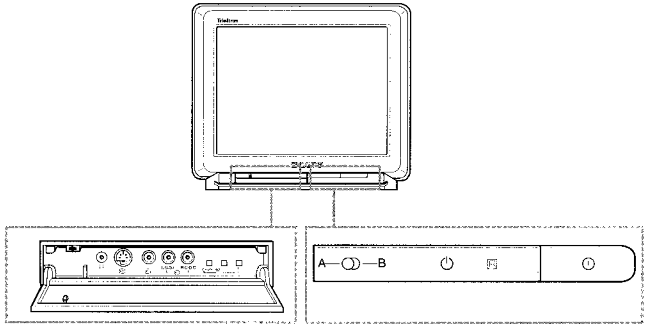
The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

Overview

This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

TV set - front

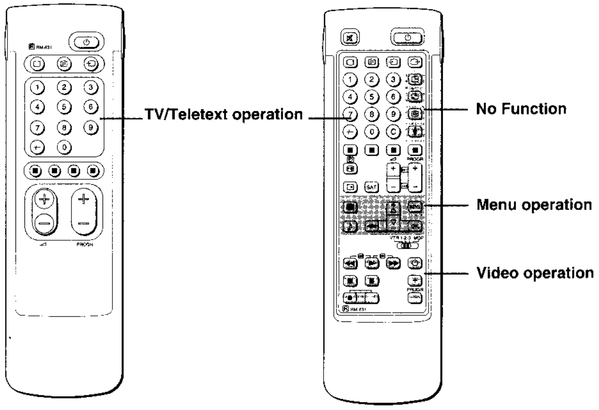




Symbol	Name	Refer to page
⏼	Main power switch	13
⏻	Standby indicator	13
A-◯◯-B	Stereo A/B indicators	15
∩	Headphones jack	20
⇥S 3, ⇥ 3, ⇥ 3	Input jacks (S-video/video/audio)	20
P→◿→⇥	Function selector (Programme/volume/input)	13
– +	Adjustment buttons for function selector	13

Remote Commander RM-831

Note
The SAT button does not operate with this TV.



Simple side   Full-Function side

TV/Teletext operation

Symbol	Name	Refer to Page
🔇	Mute on/off button	14
⏻	Standby button	13
▭	TV power on/TV mode selector button	13
⊜	Teletext button	14
⇥	Input mode selector	14
⇤	Output mode selector	21
1,2,3,4,5,6, 7,8,9, and 0	Number buttons	13
-/- -	Double-digit entering button	13
C	Direct channel entering button	10
◿+/–	Volume control button	13
PROGR +/–	Programme selectors	13
⊞⊟	Teletext page access buttons	17
●	Picture adjustment button	15
♪	Sound adjustment button	15
⊡	On-screen display button	14
⊞	Teletext hold button	17
⊙	Time display button	14
■■■■	Fastext buttons	17

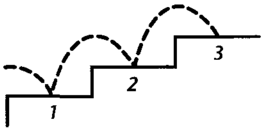
Menu operation

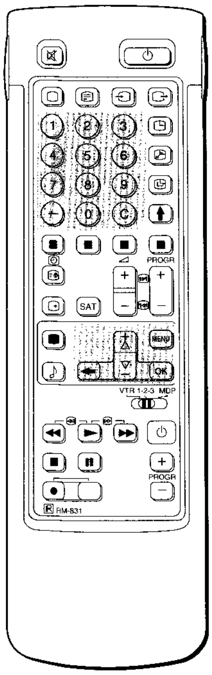
Symbol	Name	Refer to Page
MENU	Menu on / off button	7
△+/▽–	Select buttons	7
OK	OK (confirming) button	7
⬅	Back button	7

Video operation

Symbol	Name	Refer to Page
VTR1/2/3 MDP	Video equipment selector	22
◀◀ ▶ ▶▶ ■ ❚❚ ● ⏻ PROGR +/–	Video equipment operation buttons	22

Step 3 Tuning in to TV Stations



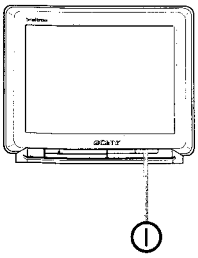


Once you have set up the TV, you can choose the language of the menu. Then you should preset the channels (up to 60 channels) by choosing either the automatic or manual method.

The automatic method is easier if you want to preset all receivable channels at once. Use the manual method if you only have a few channels and want to preset channels one by one. The manual method is also convenient for allocating programme numbers to various video input sources.

Before you begin

- Check that the Full-Function side of the Remote Commander is visible.
- Locate Menu operation buttons on the Remote Commander. They are shaded in the illustration at the left.



❶ Choose a language

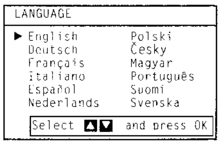
1 Depress ① on the TV.

The TV will switch on. If the standby indicator on the TV is lit, press ○ or a number button on the Remote Commander.

2 Press the MENU button.

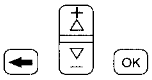
The `LANGUAGE` menu appears. (See Fig. 1)

3 Select the language you want with △+ or ▽–, and then press OK.



```
LANGUAGE
▶ English        Polski
  Deutsch        Česky
  Français       Magyar
  Italiano       Português
  Español        Suomi
  Nederlands     Svenska
  Select ▲▼  and press OK
```

Fig. 1.



❷ Display the Menu

Press the ⬅ button.

The main menu appears. (See Fig. 2)

Now, choose one of the methods described overleaf:

"Preset Channels Automatically"

or

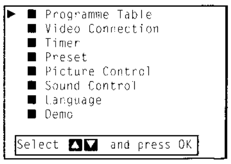
"Preset Channels Manually".

It is recommended to choose

"Preset Channels Automatically".

Then the channels are automatically stored as follows;

Programme 1	–	BBC1
Programme 2	–	BBC2
Programme 3	–	ITV
Programme 4	–	CH4 or S4C



```
▶ ■ Programme Table
  ■ Video Connection
  ■ Timer
  ■ Preset
  ■ Picture Control
  ■ Sound Control
  ■ Language
  ■ Demo
  Select ▲▼  and press OK
```

Fig. 2.

To go back to main menu:
Keep pressing ⬅.

To go back to the normal TV picture:
Press MENU. Normal TV picture will be restored after one minute if menu functions are not selected.

Note on the Demo function:
If you choose Demo on the main menu, you can see a sequential demonstration of the menu functions. Press MENU to stop the function.

With this method, you can preset all receivable channels at once.

To stop automatic channel presetting:
Press ← on the Remote Commander.

Notes:

- After presetting the channels automatically, you can check which channels are stored on which programme positions. For details, see "Using the Programme Table" on page 16.
- You can sort the programme positions to have them appear on screen in the order you like. For details, see "Sorting Programme Positions" on page 10.
- Programme names are automatically taken from Teletext if available. If not please refer to page 11 "Captioning a station name" for further information.

❸ Preset channels automatically

1. Select `Preset` with △+ or ▽– and press OK.
   The `PRESET` menu appears. (See Fig. 3.)
2. Select `Auto Programme` with △+ or ▽– and press OK.
   The `AUTO PROGRAMME` menu appears. (See Fig. 4.)
3. Press OK repeatedly until the first element of the "PROG" number is highlighted.
4. Select the programme (number button) from which you want to start presetting. Select the first element of the double-digit number with △+ or ▽– or the number buttons (e.g. For "04", select "0" here) and press OK.
   The second element of "PROG" will be highlighted.
5. Select the second element of the double-digit number with △+ or ▽– or the number buttons (e.g. For "04", select "4" here) (See Fig. 5.) and press OK.
6. The automatic channel presetting starts.
   When presetting is finished, the preset menu reappears. All available channels are now stored on successive number buttons. (Press MENU to restore normal TV picture).

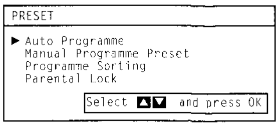
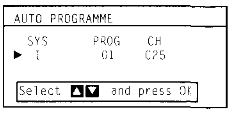

PRESET
▶ Auto Programme
Manual Programme Preset
Programme Sorting
Parental Lock
Select ▲▼ and press OK

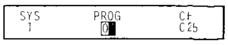
Fig. 3.


AUTO PROGRAMME

	SYS	PROG	CH
▶	I	01	C25

Select ▲▼ and press OK

Fig. 4.



SYS	PROG	CH
I	0	C25

Fig. 5.

Use this method if there are only a few channels in your area to preset or if you want to preset channels one by one. You may also allocate programme numbers to various video input sources.

If you have made a mistake:
Press ← to go back to the previous position.
To go back to main menu
Keep pressing ←.
To go back to the normal TV picture
Press MENU.

❸ Preset channels manually

1. Select `Preset` with △+ or ▽– and press OK.
   The `PRESET` menu appears. (See Fig. 6.)
2. Select `Manual Programme Preset` with △+ or ▽– and press OK.
   The `MANUAL PROGRAMME PRESET` menu appears. (See Fig. 7.)

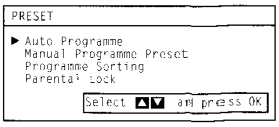
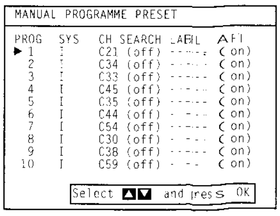

PRESET
▶ Auto Programme
Manual Programme Preset
Programme Sorting
Parental Lock
Select ▲▼ and press OK

Fig. 6.


MANUAL PROGRAMME PRESET

PROG	SYS	CH SEARCH	LABEL	AFT
▶ 1	I	C21 (off)	------	(on)
2	I	C34 (off)	------	(on)
3	I	C33 (off)	------	(on)
4	I	C45 (off)	------	(on)
5	I	C35 (off)	------	(on)
6	I	C44 (off)	------	(on)
7	I	C54 (off)	------	(on)
8	I	C30 (off)	------	(on)
9	I	C38 (off)	------	(on)
10	I	C59 (off)	------	(on)

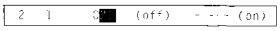
Select ▲▼ and press OK

Fig. 7.

3 Using △+ or ▽–, select the programme position (number button) to which you want to preset a channel, and press OK.

4 Keep pressing ▽– to select programme numbers higher than 10.

5 Select, if necessary, a video input source (EXT) with △+ or ▽–. Then press OK. The first element of the CH position will be highlighted. (See Fig. 8.)

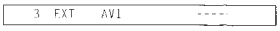


```
2   1     C■   (off)   - --- (on)
```

Fig.8.

To tune in a channel by frequency:
After selecting F in step 6, enter three digits using the number buttons.
Press OK.

6 Using △+ or ▽–, select C (to preset a regular channel), or F (to tune in by frequency) and press OK.
The first element of the "CH" number will be highlighted.
If you have selected EXT in step 5, select the video input source with △+ or ▽–. (See Fig. 9.)



```
  3  EXT    AV1          -----
```

Fig.9.

Please refer to "Television Channel Number Guide" on page 24.

There are two ways to preset channels. If you know the channel number, go to step "7-Manual",

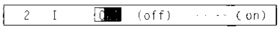
or

if you don't know the channel number, go to step "7- Search".

7 ***Manual***

-a Select the first element of the "CH" number with △+ / ▽– or the number buttons and press OK.
The second element of the "CH" number will be highlighted.

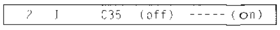
-b Select the second element of the number with △+ / ▽– or the number buttons.
The selected number appears. (See Fig. 10.)



```
2   I     0■   (off)   ----- (on)
```

Fig.10.

-c Press OK
The "SEARCH" position is highlighted and the selected channel is now stored. (See Fig. 11.)



```
2   I     C35  (off) -----(on)
```

Fig.11.

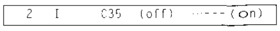
-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

If you have made a mistake:
Press ⬅ to go back to the previous position.
To go back to main menu
Keep pressing ⬅.
To go back to the normal TV picture
Press MENU.

7 ***Search***

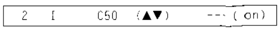
-a Press OK repeatedly until the colour of the SEARCH position changes.



```
2   I     C35  (off)  -----(on)
```

Fig.12.

-b Start searching for the channel with △+ (up) or ▽– (down).
The CH position changes colour. (See Fig. 12.)
The CH number starts counting up or downwards. When a channel is found, it stops. (See Fig. 13.)



```
2   I     C50  (▲▼)      --- ( on)
```

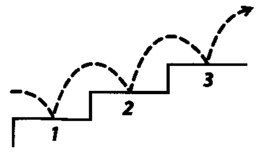
Fig.13.

-c Press OK if you want to store this channel. If not, press △+ or ▽– to continue channel searching.

-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

Additional Presetting Functions



This section shows you additional presetting functions such as sorting or skipping programme positions, captioning a station name, manual fine-tuning, and using the parental lock.

Before you begin

- Check that the Full Function side of the Remote Commander is visible
- Locate the Menu operation buttons.

PROGRAMME SORTING

Sorting Programme Positions

With this function, you can sort the programme positions to a preferable order.

1 Press MENU to display the main menu.

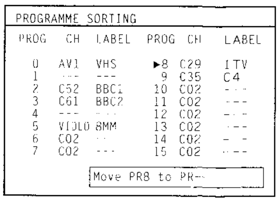
2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

3 Select `Programme Sorting` with △+ or ▽– and press OK.
The `PROGRAMME SORTING` menu appears. (See Fig. 14.)

4 Using △+ or ▽–, select the programme position you want to move to another programme position and press OK.
The colour of the selected position changes. (See Fig. 15.)

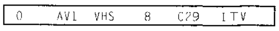
5 Using △+ or ▽–, select the programme position to which you want to move the selected programme and press OK. Now the two programme positions have been sorted. (See Fig. 16.)

6 Repeat steps 4 and 5 to exchange other programme positions.



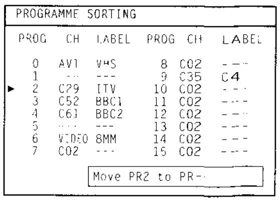
```
PROGRAMME SORTING
 PROG   CH   LABEL   PROG  CH    LABEL

   0   AV1   VHS      ▶8  C29    ITV
   1   ---   ---       9  C35    C4
   2   C52   BBC1     10  C02    ---
   3   C61   BBC2     11  C02    ---
   4   ---   ---      12  C02    ---
   5   VIDEO 8MM      13  C02    ---
   6   C02   ---      14  C02    ---
   7   C02   ---      15  C02    ---

             Move PR8 to PR--
```

Fig. 14.



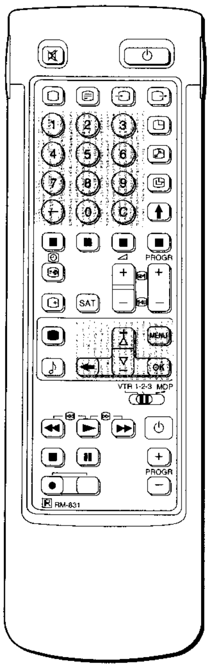
```
 0     AV1  VHS    8    C29   ITV
```

Fig. 15.



```
PROGRAMME SORTING
 PROG   CH   LABEL   PROG  CH    LABEL

   0   AV1   VHS       8  C02    ---
   1   ---   ---       9  C35    C4
▶  2   C29   ITV      10  C02    ---
   3   C52   BBC1     11  C02    ---
   4   C61   BBC2     12  C02    ---
   5   ---   ---      13  C02    ---
   6   VIDEO 8MM      14  C02    ---
   7   C02   ---      15  C02    ---

             Move PR2 to PR--
```

Fig. 16.



For higher programme positions:
The display scrolls automatically.

If you have made a mistake:
Press ◀ to go back to the previous position.

To go back to main menu:
Keep pressing ◀.

To go back to the normal TV picture:
Press MENU.

Tuning in a Channel Temporarily

Ⓒ

You can tune in a channel temporarily, even when it has not been preset. Use the buttons on the Full-Function side of the Remote Commander.

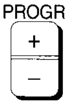
1 Press C on the Remote Commander.
The indication "C" appears on the screen.

2 Enter the double-digit channel number using the number buttons (e.g. for channel 4, first press 0, then 4).
The channel appears.
However, the channel will not be stored.

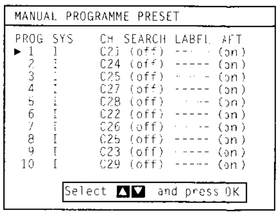
MANUAL PROGRAMME PRESET

Skipping Programme Positions

You can skip unused programme positions when selecting programmes with the PROGR +/- buttons. However, the skipped programmes may still be called up when you use the number buttons.

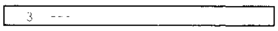


1 Press MENU to display the main menu.
2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.
3 Select `Manual Programme Preset` with △+ or ▽– and press OK.
The `MANUAL PROGRAMME PRESET` menu appears. (See Fig.17.)
4 Using △+ or ▽–, select the programme position which you want to skip and press OK.
The "SYSTEM" position changes colour.
5 Press △+ or ▽– until – – – appears in the SYSTEM position. (See Fig. 18.)
6 Press OK. (See Fig. 19.)
When you select programmes using the PROGR +/– buttons, the programme position will be skipped.
7 Repeat steps 4 to 6 to skip other programme positions.



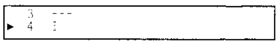
```
MANUAL PROGRAMME PRESET
PROG SYS    CH  SEARCH LABEL AFT
▶ 1   I     C21 (off) -----  (on)
  2   I     C24 (off) -----  (on)
  3   I     C25 (off) -----  (on)
  4   I     C27 (off) -----  (on)
  5   I     C28 (off) -----  (on)
  6   I     C22 (off) -----  (on)
  7   I     C26 (off) -----  (on)
  8   I     C25 (off) -----  (on)
  9   I     C23 (off) -----  (on)
 10   I     C29 (off) -----  (on)
         Select ▲▼ and press OK
```

Fig. 17.



```
  3  ---
```

Fig. 18.



```
  3  ---
▶ 4  I
```

Fig. 19.

MANUAL PROGRAMME PRESET

Captioning a Station Name

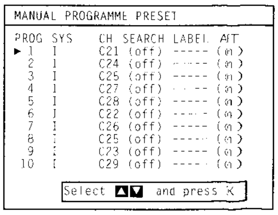
Programme names are automatically taken from Teletext if available. However you can also "name" a channel or an input video source using up to five characters (letters or numbers) to be displayed on the TV screen (e.g. BBC1). Using this function, you can easily identify which channel or video source you are watching.

1 Press MENU to display the main menu.
2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.
3 Select `Manual Programme Preset` with △+ or ▽– and press OK.
The `MANUAL PROGRAMME PRESET` menu appears. (See Fig. 20.)
4 Using △+ or ▽–, select the programme position you want to caption and press OK repeatedly until the first element of the LABEL position is highlighted.
5 Select a letter or number with △+ or ▽– and press OK.The next element will be highlighted.
Select other characters in the same way. If you want to leave an element blank, select – and press OK. (See Fig. 21.)
6 After selecting all the characters, press OK repeatedly until the cursor appears by the next programme position (at the left margin). Now the caption you chose is stored. (See Fig. 22.)
7 Repeat steps 5 and 6 to caption names for other channels.

If you have made a mistake:
Press ← to go back to the previous position.

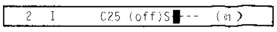
To go back to main menu:
Keep pressing ←.

To go back to the normal TV picture:
Press MENU.



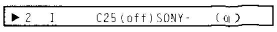
```
MANUAL PROGRAMME PRESET
PROG SYS    CH  SEARCH LABEL AFT
▶ 1   I     C21 (off) -----  (on)
  2   I     C24 (off) -----  (on)
  3   I     C25 (off) -----  (on)
  4   I     C27 (off) -----  (on)
  5   I     C28 (off) -----  (on)
  6   I     C22 (off) -----  (on)
  7   I     C26 (off) -----  (on)
  8   I     C25 (off) -----  (on)
  9   I     C23 (off) -----  (on)
 10   I     C29 (off) -----  (on)
         Select ▲▼ and press OK
```

Fig. 20.



```
  2  I      C25 (off)S█---  (on)
```

Fig. 21.



```
▶ 2  I      C25(off)SONY-   (on)
```

Fig. 22.

MANUAL PROGRAMME PRESET

Manual Fine-Tuning

Normally, the AFT(automatic fine-tuning) is already operating. However, if the picture is distorted, you can use the manual fine tuning function to obtain better picture reception.

1 Press MENU to display the main menu.

2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

3 Select `Manual Programme Preset` with △+ or ▽– and press OK.
The `MANUAL PROGRAMME PRESET` menu appears. (See Fig. 23.)

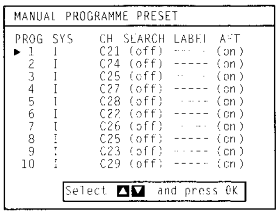
4 Using △+ or ▽– , select the programme position corresponding to the channel which you want to manually fine-tune, and press OK repeatedly until the AFT position changes colour.

5 Fine-tune the channel with △+ or ▽– so that you get the best TV reception. As you press the cursor buttons, the frequency changes from –15 to +15. (See Fig. 24.)

6 After fine tuning, press OK.
The cursor appears beside the next programme position (at the left margin). (See Fig. 25.) Now the fine-tuned level is stored.

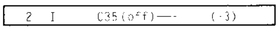
7 Repeat steps 4 to 6 to fine-tune other channels.

To reactivate AFT (automatic fine tuning):
Repeat from the beginning and select "ON" in step 5.



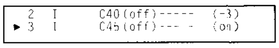
```
MANUAL PROGRAMME PRESET
PROG SYS    CH  SEARCH LABEL  AFT
▶ 1   I     C21 (off) -----  (on)
  2   I     C24 (off) -----  (on)
  3   I     C25 (off) -----  (on)
  4   I     C27 (off) -----  (on)
  5   I     C28 (off) -----  (on)
  6   I     C22 (off) -----  (on)
  7   I     C26 (off) -----  (on)
  8   I     C25 (off) -----  (on)
  9   I     C23 (off) -----  (on)
 10   I     C29 (off) -----  (on)
       Select ▲▼  and press OK
```

Fig. 23.



```
  2   I     C35(off)---       (-3)
```

Fig. 24.



```
  2   I     C40(off)-----   (-3)
▶ 3   I     C45(off)-----   (on)
```

Fig. 25.

PARENTAL LOCK

Parental Lock

You can prevent undesirable broadcasts from appearing on the screen. We suggest you use this function to prevent children from watching programmes which you consider unsuitable.

1 Press MENU to display the main menu.

2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

3 Select `Parental Lock` with △+ or ▽– and press OK.
The `PARENTAL LOCK` menu appears. (See Fig. 26.)

4 Using △+ or ▽–, select the programme position you want to block and press OK.
The CH and LABEL, of the selected programme number, change colour indicating that this programme is now blocked.
(See Fig. 27.)

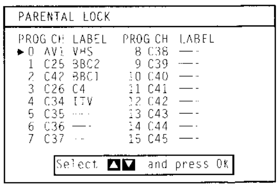
5 Repeat step 4 to block other programme positions.

Cancelling blocking

1 On the `PARENTAL LOCK` menu, select the programme position you want to unblock with △+ or ▽–.

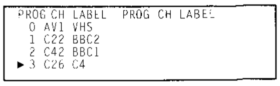
2 Press OK.
The CH and LABEL change to normal colour indicating that the blocking has been cancelled.

If you try to select a programme that has been blocked:
The message "LOCKED" appears on the blank TV screen.



```
PARENTAL LOCK
PROG CH  LABEL   PROG CH  LABEL
▶0  AV1 VHS        8 C38  ---
 1  C25 BBC2       9 C39  ---
 2  C42 BBC1      10 C40  ---
 3  C26 C4        11 C41  ---
 4  C34 ITV       12 C42  ---
 5  C35 ---       13 C43  ---
 6  C36 ---       14 C44  ---
 7  C37 ---       15 C45  ---
     Select ▲▼  and press OK
```

Fig. 26.

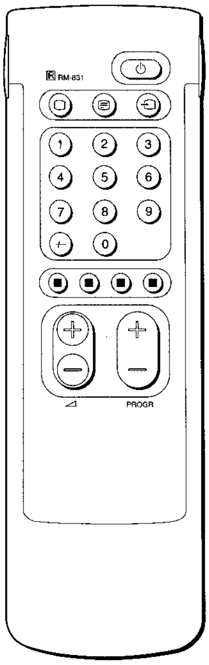


```
PROG CH  LABEL   PROG CH LABEL
  0 AV1 VHS
  1 C22 BBC2
  2 C42 BBC1
▶ 3 C26 C4
```

Fig. 27.

Operating Instructions

Watching the TV

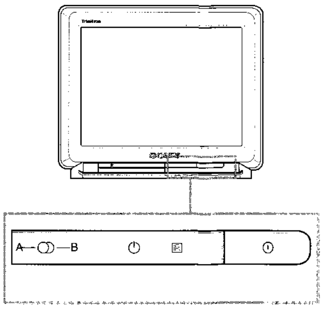


If no picture appears when you depress ⏼ on the TV

and if the standby indicator on the TV is lit, the TV is in standby mode. Press ▢ or one of the number buttons to switch it on.

This section explains the basic functions you use while watching TV. Most of the operations can be done using the simple side of the Remote Commander.

Switching the TV on and off



Switching on

Depress ⏼on the TV.

Switching off temporarily

Press ⏻ on the Remote Commander.
The TV enters standby mode and the standby indicator on the front of the TV lights up.

To switch on again

Press ▢, PROGR +/–, or one of the number buttons on the Remote Commander.

Switching off completely

Depress ⏼ on the TV.

Selecting TV Programmes

Press PROGR +/– or press number buttons.

To select a double-digit number

Press -/– –, then the numbers.
For example, if you want to choose 23, press -/– –, 2, and 3.

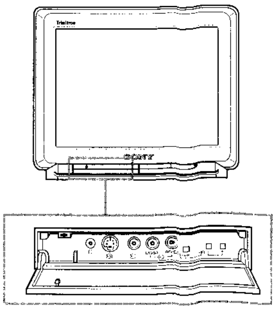
Adjusting the Volume

Press ⊿ +/–.

Operating the TV Using the Buttons on the TV

With the buttons on the TV, you can select programmes, adjust the volume, and select video input sources.

- Press P→⊿→-⊃ button repeatedly until the programme number, ⊿ (for volume), or -⊃ (for video input picture) appears. Then adjust with the –/+ buttons.
- Press –/+ buttons to switch on the TV from the standby mode.
- Press –/+ simultaneously to reset picture and sound controls to the factory preset level (RESET symbol →•← is displayed).



For details of the teletext operation, refer to page 17.

Watching Teletext or Video Input

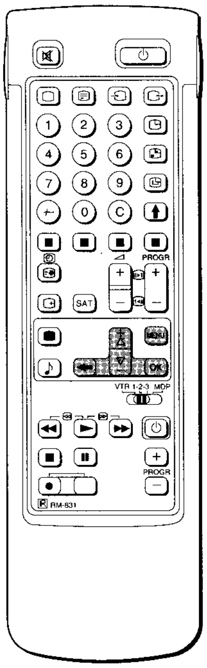
Watching teletext

- Press ⊜ to view the teletext.
- Press three number buttons to select a page.
- Press one of the coloured buttons for fastext operation.
- Press ▣ (PAGE +) or ▣ (PAGE –) for the next or preceeding page.
- To go back to the normal TV picture, press ▢.

For details of the video input picture, refer to page 21.

Watching a video input picture

Press ⇥ repeatedly until the desired video input appears. To go back to the normal TV picture, press ▢.



More Convenient Functions

Use the Full-Function side of the Remote Commander.

Displaying the on screen indications

- Press ⊕ once to display all the indications. They will disappear after some seconds.
- Press ⊕ twice to have the programme number and label stay on screen. Press twice again to make indications disappear.

Muting the sound.

Press 🔇.
To resume normal sound, press 🔇 again.

Displaying the time

Press ◷. This function is available only when teletext is broadcast.
To make the time display disappear, press ◷ again.

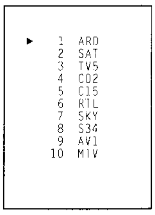
Displaying of the Programme Table

Press OK. A Programme Table will be displayed on the right side of the TV screen (See. Fig.28)

Selecting of TV programmes

Press PROGR +/- or select the desired programme position using △+ or ▽– and press OK.

To make the Programme Table disappear
Press MENU.

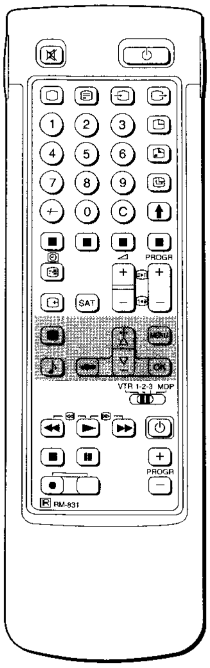


```
▶  1  ARD
   2  SAT
   3  TV5
   4  C02
   5  C15
   6  RTL
   7  SKY
   8  S34
   9  AV1
  10  MTV
```

Fig.28.

Adjusting and Setting the TV Using the Menu

PICTURE CONTROL
SOUND CONTROL



Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste. In addition, you can change the aspect ratio of the TV display for wide screen effect. You can also select dual sound (bilingual) programmes when available or adjust the sound for listening with the headphones (∩).

1 Press ● (for picture) or ♪ (for sound) on the Remote Commander.

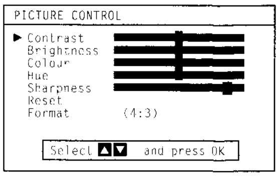
   or

   Press MENU and select `Picture Control` or `Sound Control`, then press OK.
   The `PICTURE CONTROL` or `SOUND CONTROL` menu appears. (See Fig. 29 or Fig. 30)

2 Using △+ or ▽–, select the item you want to adjust and press OK.The selected item changes colour. (See Fig. 31)

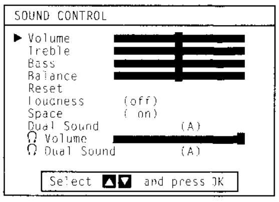
3 Adjust the setting with △+ or ▽ – and press OK.
   The cursor appears beside the next item (at the left margin). (See Fig. 32)
   For the effect of each control, see the table below.

4 Repeat steps 2 and 3 to adjust other items.



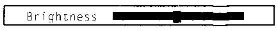
```
PICTURE CONTROL
▶ Contrast
  Brightness
  Colour
  Hue
  Sharpness
  Reset
  Format        (4:3)

   Select ▲▼  and press OK
```

Fig. 29.



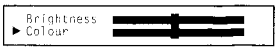
```
SOUND CONTROL
▶ Volume
  Treble
  Bass
  Balance
  Reset
  Loudness      (off)
  Space         ( on)
  Dual Sound             (A)
  ∩ Volume
  ∩ Dual Sound           (A)

   Select ▲▼  and press OK
```

Fig. 30.



```
  Brightness
```

Fig. 31.



```
  Brightness
▶ Colour
```

Fig. 32.

Effect of each control

PICTURE CONTROL	Effect
Contrast	Less ——I—— More
Brightness	Darker ——I—— Brighter
Colour	Less ——I—— More
Hue	Greenish ——I—— Reddish
Sharpness	Softer ——I—— Sharper
Reset	Resets picture to the factory preset levels.
Format	4 : 3 : Normal 16 : 9 : Wide screen effect

SOUND CONTROL	Effect
Volume	Less —I— More
Treble	Less —I— More
Bass	Less —I— More
Balance	More left —I— More right
Reset	Resets sound to the factory preset levels.
Loudness	off : Normal on : When listening to low volume sound.
Space	off : Normal on : Obtain acoustic sound effect.
Dual Sound	A : left channel B : right channel stereo mono The selected mode of the A-CD-B indicator on the TV lights up. (for NICAM broadcasts see next page)
Headphones:	
∩ Volume	Less —I— More
∩ Dual Sound	A : left channel B : right channel STEREO MONO

If you have made a mistake:
Press ⬅ to go back to the previous position.
To go back to the main menu:
Keep pressing ⬅.
To go back to the normal TV picture:
Press MENU.

Note:
HUE is only available for NTSC colour system.

Note on LINE OUT:
The audio level and the dual sound mode output from the ⊖ jack on the rear correspond to the HEADPHONES VOLUME and DUAL SOUND settings.

When watching a video input source with stereo sound:
You can select DUAL SOUND to change the sound.

*Selecting Nicam Broadcasts**

This Sony TV has been designed to select Nicam broadcasts when available. Whenever a Nicam broadcast is received, "NICAM" appears briefly on the screen. When the Nicam programme ends, or you switch channels to one without Nicam, the A-ↀ-B indicators, on the TV will switch off.

Nicam programmes can be broadcast in two ways. You may select the sound you want to hear in either of these by first following the instructions explained on page 15.

Service Being Broadcast	**Action**	**Effect**	**Indication on the TV A-ↀ-B**	
Stereo	Press	Stereo Nicam (Mono 2-Channel)	■	■
	△+ or ▽–	mono	□	□
Press △+ or ▽– again to return to stereo Nicam (mono 2-channel)				
Bilingual	press	Channel A Nicam	■	□
	△+ or ▽–	Channel B Nicam	□	■
		mono	□	□
Press △+ or ▽– again to return to channel A Nicam				

* Depending on availability of service.

PROGRAMME TABLE

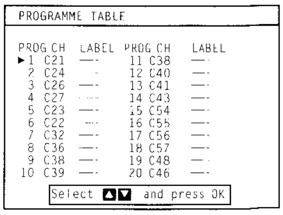
To go back to the normal TV picture:
Press MENU.

Using the Programme Table

On this table, you can see which channel is preset to which programme position. You can also select programmes using this table.

1 From the main menu, select `Programme Table` with △+ or ▽– and press OK.
The `PROGRAMME TABLE` menu appears. (See Fig. 33)
To scroll to higher programme numbers, press ▽–.

2 To select a programme using this menu select the programme number with △+ or ▽– and press OK.
The selected programme appears.



```
PROGRAMME TABLE

PROG CH  LABEL  PROG CH  LABEL
▶1  C21  —-      11 C38  —-
 2  C24   -      12 C40  —-
 3  C26  —-      13 C41  —-
 4  C27  ·—      14 C43  —-
 5  C23  —-      15 C54  —-
 6  C22  --      16 C55  —-
 7  C32  —-      17 C56  —-
 8  C36  —-      18 C57  —-
 9  C38  —-      19 C48  —-
10  C39  —-      20 C46  —-
   Select ▲▼ and press OK
```

Fig. 33.

TIMER

To switch off the timer:
Select "OFF" in step 3.

To check the remaining time:
Press ⊕.

Using the Sleep Timer

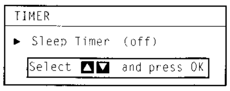
You can select a time period after which the TV automatically switches into standby mode.

1 From the main menu, select `Timer` with △+ or ▽– and press OK.
The `TIMER` menu appears. (See Fig. 34.)

2 Press OK.
The time period option changes colour.

3 Select the time period with △+ or ▽–.
The time period (in minutes) changes as follows:
10→20→30→40→50→60→70→80→90
↑———————— OFF ————————┘

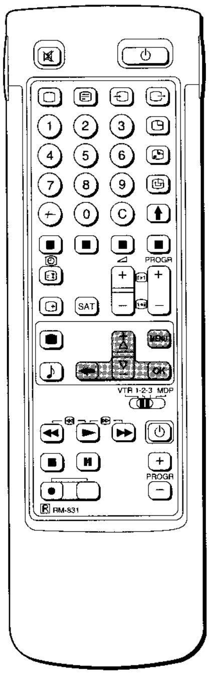
4 After selecting the time period, press OK.
The cursor moves back to the left margin and the timer starts counting.
One minute before the TV switches into standby mode, a message is displayed on the screen.



```
TIMER
▶ Sleep Timer  (off)
 Select ▲▼ and press OK
```

Fig. 34.

Teletext



Note:
Teletext errors may occur if the broadcasting signals are weak.

With the simple side of the Remote Commander:
You can switch teletext on and off, operate Fastext, and directly select page numbers.

Note:
Fastext operation is only possible, if the TV station broadcasts Fastext signals.

TV stations broadcast an information service called Teletext via the TV channels. Teletext service allows you to receive various information pages such as weather reports or news at any time you want. For advanced teletext operation, use the buttons on the Full-Function side of the Remote Commander.

Direct Access Functions

Switching Teletext on and off

1 Select the TV channel which carries the teletext broadcast you want to watch.

2 Press ⊜ to switch on teletext.
A teletext page will be displayed (usually the index page).If there is no teletext broadcast, "No text available" is displayed on the informa-tion line at the top of the screen.

To switch teletext off
Press ▢.

Selecting a teletext page

With direct page selection

Use the number buttons to input the three digits of the chosen page number.
If you have made a mistake, type in any three digits. Then re-enter the correct page number.

With page-catching

1 Select a teletext page with a page overview (e.g. index page).

2 Press OK. Using △+ or ▽–, select the desired page. "Page Catching" will be displayed on the information line. Press OK. The requested page will appear in a few seconds.

Press ⊜ to resume normal teletext reception.

Accessing next or preceding page

Press ⊞ (PAGE +) or ⊟ (PAGE –).
The next or preceding page appears.

Superimposing the teletext display on the TV programme

- Press ⊜ once in teletext mode or twice in TV mode.
- Press ⊜ again to resume normal teletext reception.

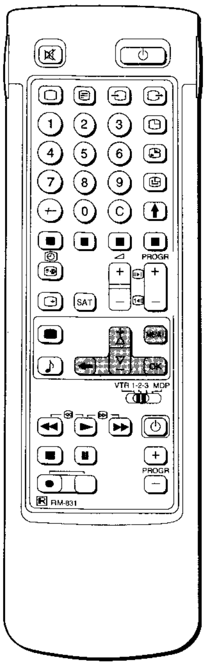
Preventing a teletext page from being updated

- Press ⊕ (HOLD). The HOLD symbol "⊕" is displayed on the information line.
- Press ⊜ to resume normal teletext reception.

Using Fastext

With Fastext you can access pages with one key stroke.When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons on the Remote Commander.
Press the corresponding coloured button on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed after some seconds.

Using the Teletext Menu


SAT
PROGR
VTR 1-2-3 MDP
RM-831

Note:
Some of the features may not be available depending on the Teletext service.

This TV is provided with a menu-guided teletext system. When teletext is switched on, you can use the menu buttons to operate the teletext menu. Select the teletext menu functions in the following way:

1 Press MENU. The menu will be superimposed on the teletext display. (See Fig. 35)

2 Using △+ or ▽–, select the teletext function you want and press OK. (See Fig. 36)

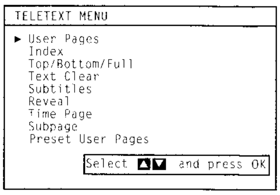

TELETEXT MENU
▸ User Pages
Index
Top/Bottom/Full
Text Clear
Subtitles
Reveal
Time Page
Subpage
Preset User Pages
Select ▲▼ and press OK

Fig. 35.

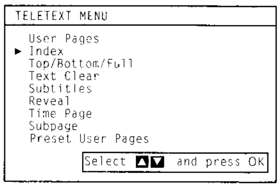

TELETEXT MENU
User Pages
▸ Index
Top/Bottom/Full
Text Clear
Subtitles
Reveal
Time Page
Subpage
Preset User Pages
Select ▲▼ and press OK

Fig. 36.

USER PAGES/PRESET USER PAGES

See page 19 for information about presetting and operating the user pages.

INDEX

The index will give you an overview of the contents of the teletext and the page numbers.

TOP/BOTTOM/FULL

For convenient reading of a teletext page, you can enlarge the teletext display with the ability to scroll up and down the screen. After having selected the function, an information line `Top/Bottom/Full` will be displayed. (See Fig. 37)

Press △+ for `Top` to enlarge the upper half. For `Bottom` keep pressing ▽–, to enlarge the lower half. Press OK for `Full` to resume the normal size.

Press ⊜ to resume normal teletext reception.

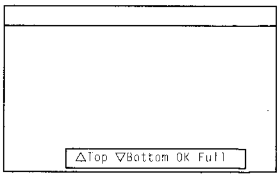

△Top ▽Bottom OK Full

Fig. 37.

TEXT CLEAR

After having selected the function, you can watch a TV programme while waiting for a requested teletext page to be captured (The symbol changes colour) (see Fig. 38).

Press ⊜ to view the requested page.

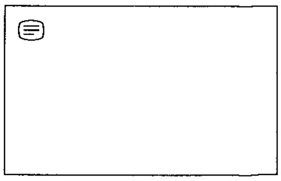


Fig. 38.

Note on Subtitles:
If the subtitles are not broadcast on page 888, please select the subtitle page using the number buttons.

SUBTITLES

Your teletext service will inform you if a TV programme is subtitled. After having selected the function the subtitles will be displayed.

REVEAL

Sometimes pages contain concealed information, such as answers to a quiz. The reveal option lets you disclose the information. After having selected the function, an information line “REVEAL ON/OFF” will be displayed. (See Fig. 39)

Using △+ or ▽–, select ON to reveal the information or OFF to conceal it again.

Press ⊜ to resume normal teletext reception.

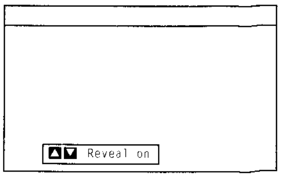


Fig. 39.

TIME PAGE

This function is not available.

SUBPAGE

You may want to select a particular teletext page from several subpages which are rotated automatically. After having selected the function, an information line will be displayed.

To select the desired subpage, enter four digits using PROGR+/– or the number buttons. (e.g. enter 0002 for the second page of a sequence).

To cancel the request:
Select “Subpage” and press OK.

If two broadcasting stations use the same Teletext:
You can preset one bank to 2 different programme positions.

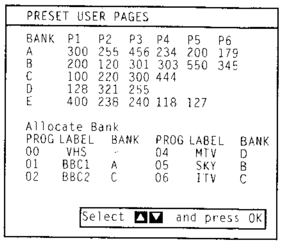
User Page Bank System

You can store up to 30 pages in the "Teletext page bank system". In this way you have quick access to the pages you watch frequently.

Storing pages

There are 5 "banks" (A to E) for 5 teletext stations. In each bank you can store 6 preferred pages (P1 to P6).

1. Press ⊜ (if Teletext is not on already) and MENU to show the TELETEXT MENU display.
2. Select `PRESET USER PAGES` with △+ or ▽– and press OK.
3. Select the desired bank with △+ or ▽– and press OK. The cursor will go to the first position (P1) of the preferred pages.
4. Input the three digits of your first preferred page with the number buttons and press OK.
   The cursor will go to the second position.
5. Repeat step 4 for the other 5 page numbers you want to preset. If you do not want to preset all 6 page numbers available, press OK without inserting any number. After having finished the presetting press OK repeatedly until the cursor appears besides the next bank at the left margin.
6. Select `Allocate Bank` with △+ or ▽– and press OK.
7. Select the programme position for which you have preset pages with △+ or ▽– and press OK. (See Fig. 40)
8. Select the desired bank with △+ or ▽– (Banks A to E are available) and press OK.
9. Repeat steps 3 to 8 for the other 4 banks available.



```
PRESET USER PAGES

BANK  P1   P2   P3   P4   P5   P6
A     300  255  456  234  200  179
B     200  120  301  303  550  345
C     100  220  300  444
D     128  321  255
E     400  238  240  118  127

Allocate Bank
PROG LABEL   BANK    PROG LABEL   BANK
00    VHS     -      04    MTV    D
01    BBC1    A      05    SKY    B
02    BBC2    C      06    ITV    C

              Select ▲▼  and press OK
```

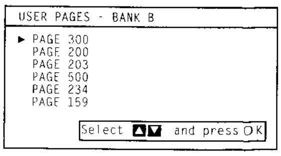
Fig.40.

Displaying User Pages

1. Select MENU.
2. Select `User Pages` with △+ or ▽– and press OK.
   A table of the stored preferred pages will be displayed.
   (See Fig. 41)
3. Select the desired page with △+ or ▽– and press OK. The page will be displayed after some seconds.

You can use the coloured buttons on the Remote Commander to have quick access to the first four User pages. Page 1 corresponds to the red button, P 2 to the green one, P 3 to the yellow one and P 4 to the blue button.

To select the desired page press the respective coloured button while you are in TV mode. Now the Page number of this teletext page will appear in white at the top in the left-handed corner of the TV screen. When the page number changes colour, the page is available. Press the coloured button again to display the page.



```
USER PAGES - BANK B

► PAGE 300
  PAGE 200
  PAGE 203
  PAGE 500
  PAGE 234
  PAGE 159

              Select ▲▼  and press OK
```

Fig. 41.

Connecting and Operating Optional Equipment

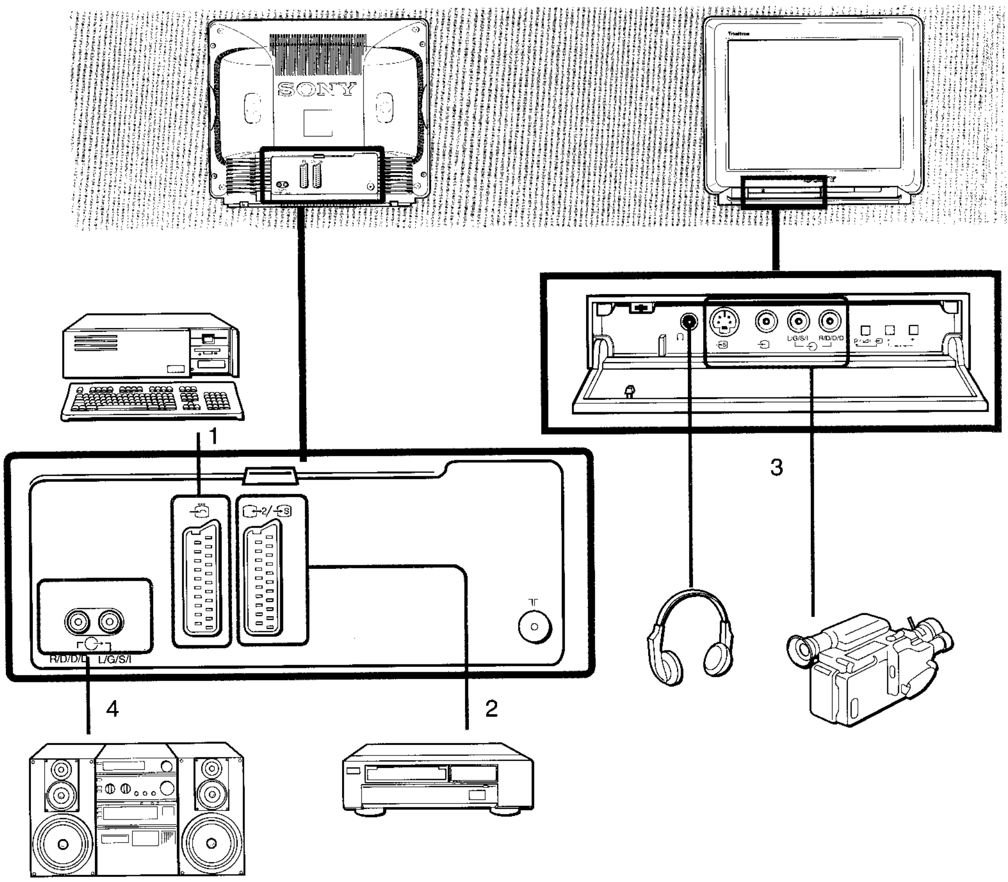
Connecting Optional Equipment

You can connect optional audio-video equipment to this TV such as VTRs, video disc players, and stereo systems.

To connect a VTR using the ⊤ terminal: Connect the aerial output of the VTR to the aerial terminal ⊤ of the TV.

We recommend that you tune in the signal to programme number "0". For details see "Preset Channels Manually" on page 8.

If the picture or the sound is distorted: Move the VTR away from the TV.



S video input (Y/C input): Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals. Separating the Y and C signals prevents them from interfering with one another, and therefore improves picture quality (especially luminance). This TV is equipped with 2 S Video input jacks through which these separated signals can be input directly.

When connecting a monaural VTR: Connect only the white -⊕ jack to both the TV and VTR.

Acceptable input signal	Available output signal
1 Normal audio/video and RGB signal	Video/audio from TV tuner
2 Normal audio/video and S video signal	Video/audio from selected source
3 Normal audio/video and S video signal	No outputs
4 No inputs	Audio signal (variable)

Checking and selecting the input and output sources using the menu

You can display the menu to see which input sources are selected for the TV screen, and which output source is selected. You can also select them on the menu display.

1 Select `Video Connection` with △+ or ▽– and press OK. The `VIDEO CONNECTION` menu appears. (See Fig. 42)

You can see which source is selected for the TV and for the output. If you want to select the input and output on this menu, go on to the next step.

2 Select TV Screen (input source for the TV screen) or output (output source) with △+ or ▽– and press OK. One of the source items changes colour. (See Fig. 43)

3 Select the desired source with △+ or ▽–.
(See Fig. 44)
For details about each source, see the table on page 21.

4 Press OK.

The selected source is confirmed, and the cursor appears. (See Fig. 45)

5 Repeat steps 2 to 4 to select the source for other inputs or outputs.

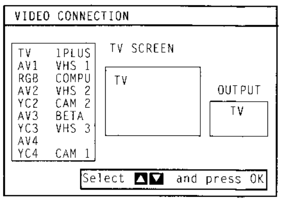

VIDEO CONNECTION
TV 1PLUS
AV1 VHS 1
RGB COMPU
AV2 VHS 2
YC2 CAM 2
AV3 BETA
YC3 VHS 3
AV4
YC4 CAM 1
TV SCREEN
TV
OUTPUT
TV
Select ▲▼ and press OK

Fig. 42.

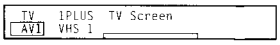

TV 1PLUS TV Screen
AV1 VHS 1

Fig. 43.

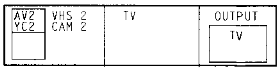

AV2 VHS 2
YC2 CAM 2
TV
OUTPUT
TV

Fig. 44.

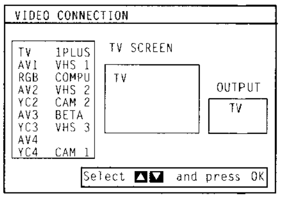

VIDEO CONNECTION
TV 1PLUS
AV1 VHS 1
RGB COMPU
AV2 VHS 2
YC2 CAM 2
AV3 BETA
YC3 VHS 3
AV4
YC4 CAM 1
TV SCREEN
TV
OUTPUT
TV
Select ▲▼ and press OK

Fig. 45.

Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most Sony remote-controlled video equipment such as: Beta, 8mm or VHS VTRs or video disc players.

Tuning the Remote Commander to the equipment

1 Set the VTR 1/2/3 MDP selector according to the equipment you want to control:

VTR 1: Beta or ED Beta VTR

VTR 2: 8mm VTR

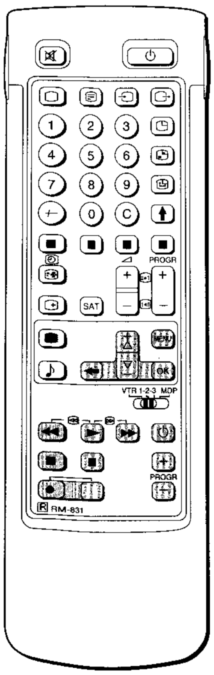
VTR 3: VHS VTR

MDP: Video disc player

2 Use the buttons indicated in the illustration to operate the additional equipment.

If your video equipment is furnished with a COMMAND MODE selector: set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.

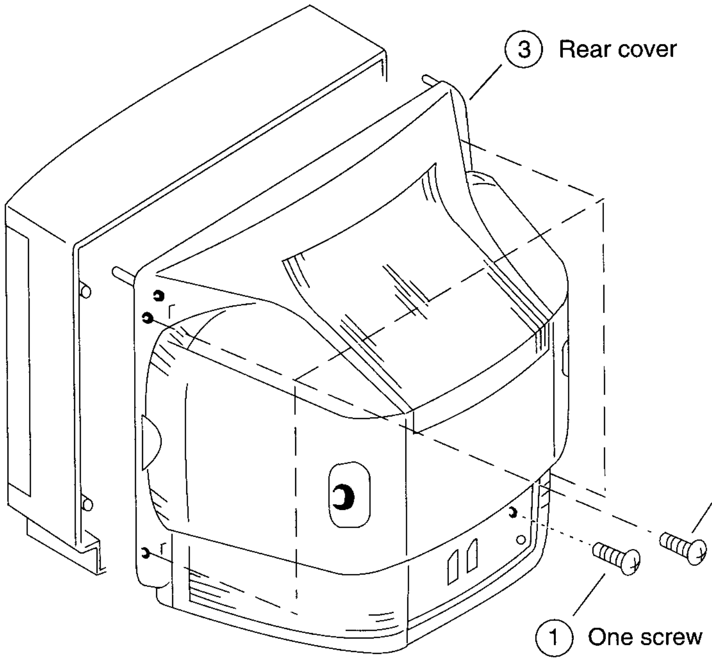
If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.


PROGR
SAT
VTR 1·2·3 MDP
PROGR
RM-831

When recording
When you use the ● (record) button, make sure to press this button and the one to the right of it simultaneously.

SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL

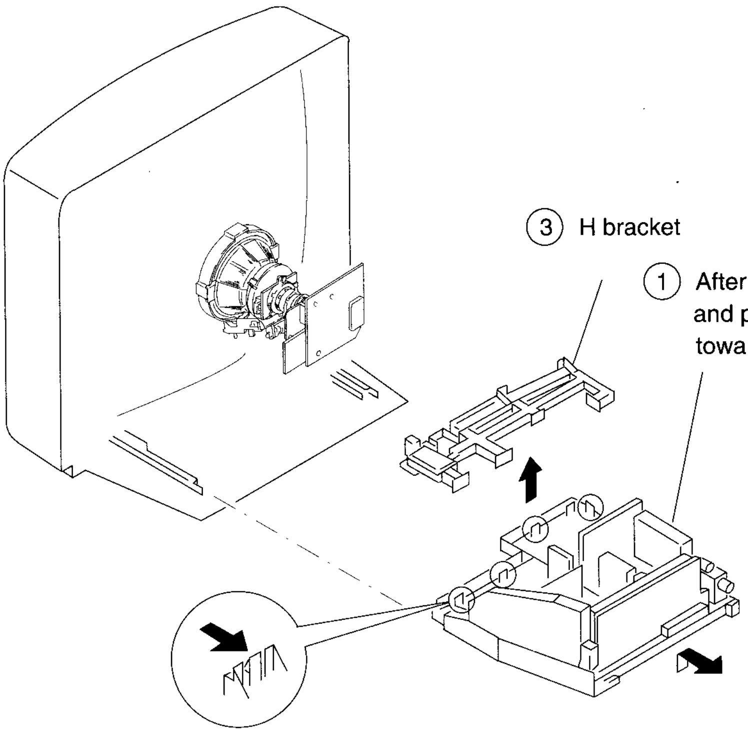


③ Rear cover

② Four screws (BVTP4x16)

① One screw (BVTP4x16)

2-2. CHASSIS ASSY REMOVAL

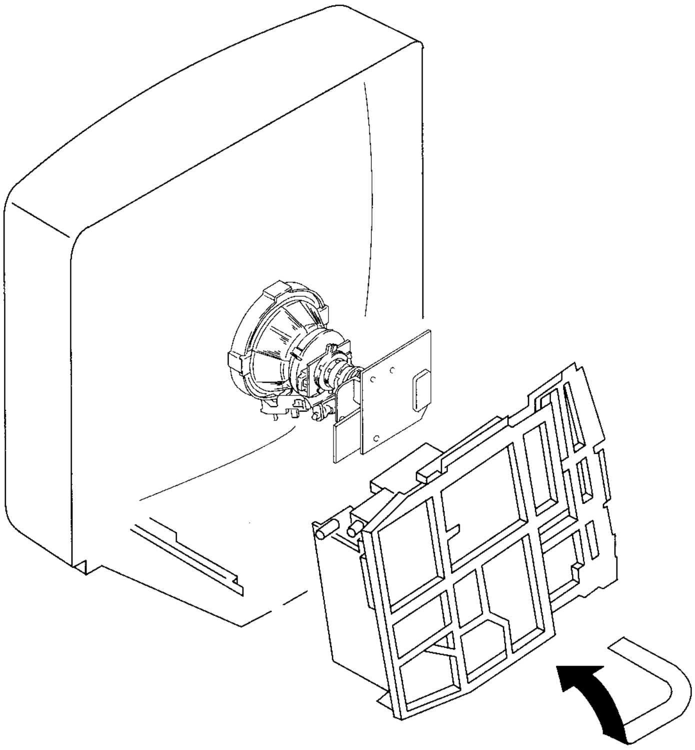


③ H bracket

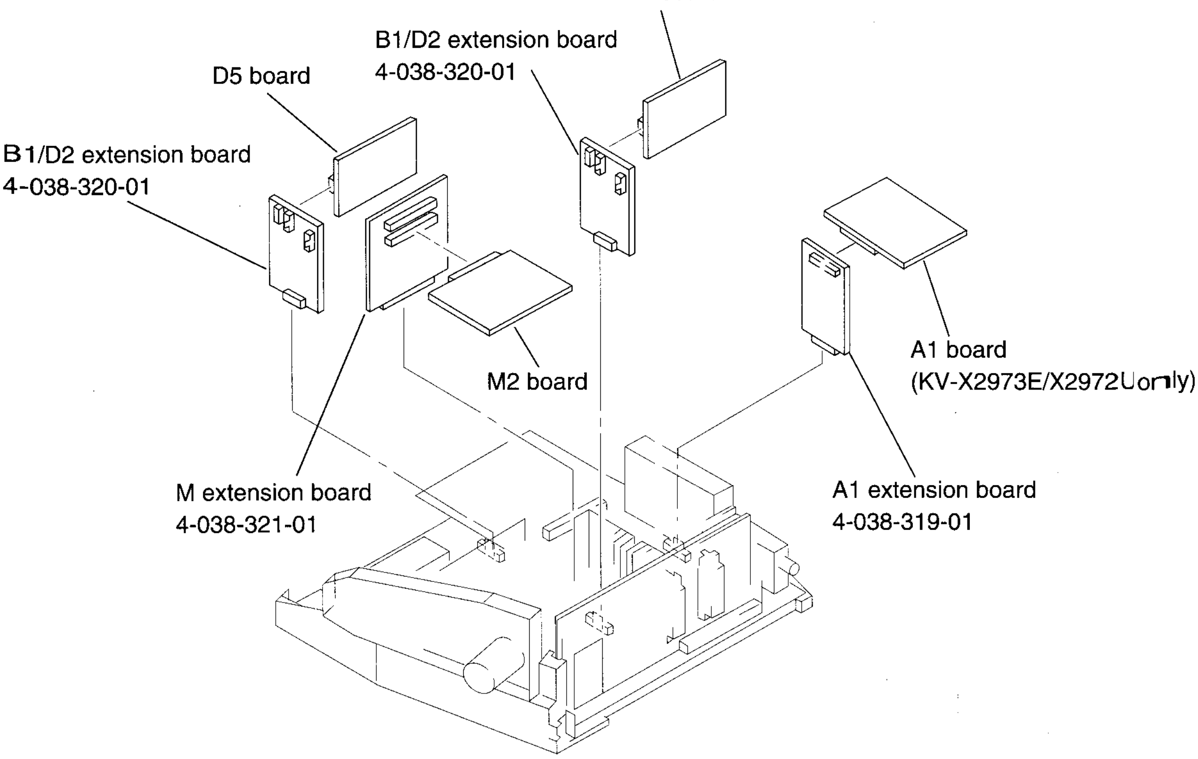
① After the assembly of the main chassis, lift and pull out the rear part of the main chassis towards the rear.

② Push the four claws of the main chassis in the direction of the arrow and remove the H bracket upwards.

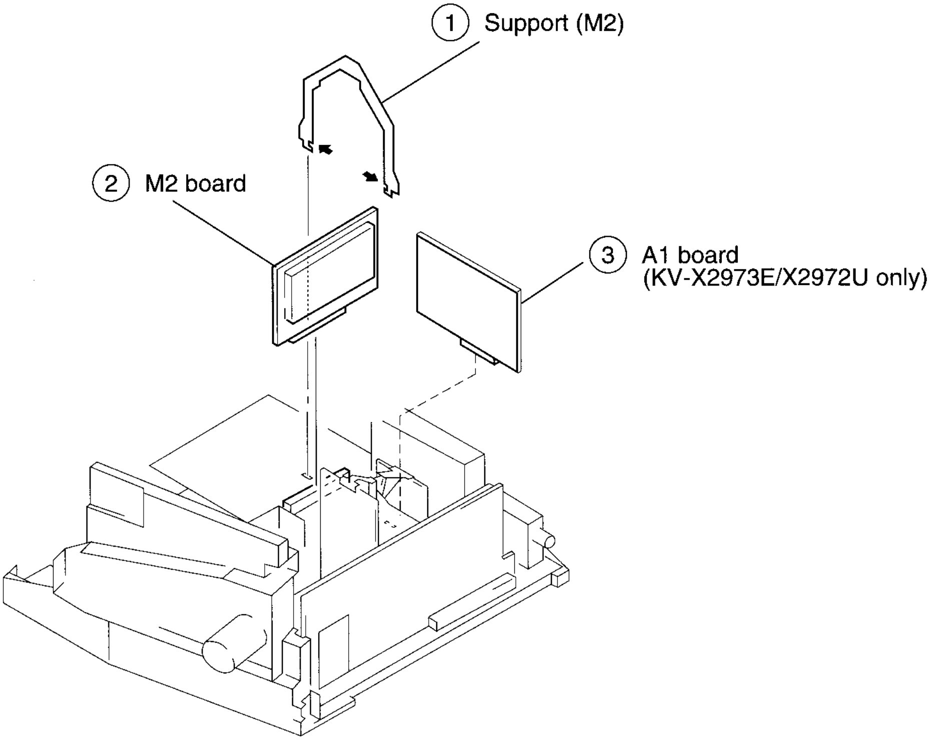
2-3. SERVICE POSITION



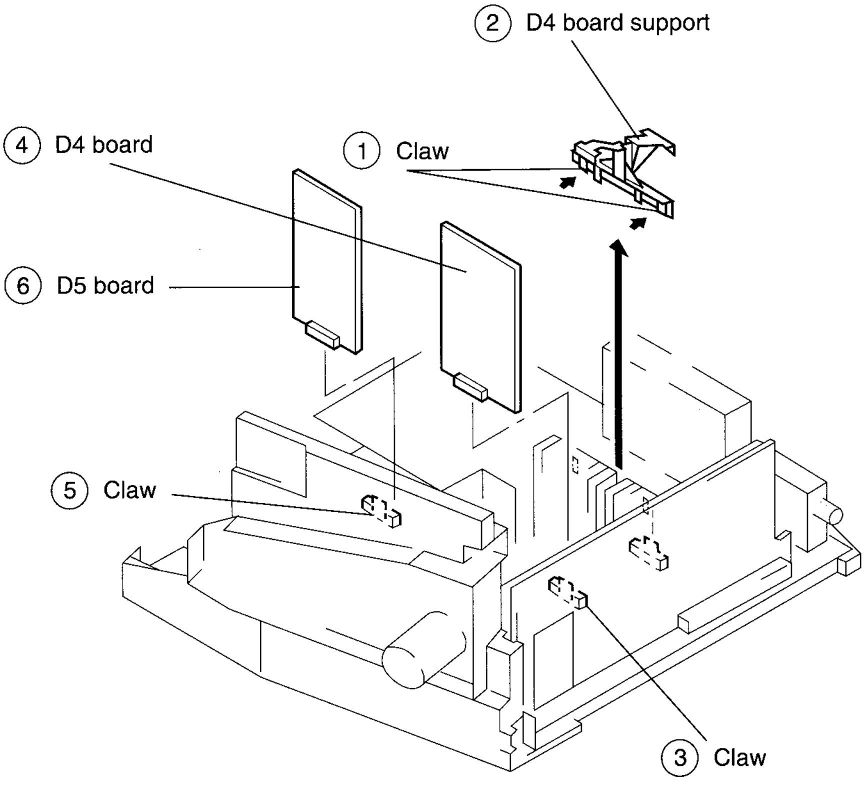
2-4. EXTENSION BOARDS


D4 board
B1/D2 extension board
4-038-320-01
D5 board
B1/D2 extension board
4-038-320-01
M2 board
A1 board
(KV-X2973E/X2972U only)
M extension board
4-038-321-01
A1 extension board
4-038-319-01

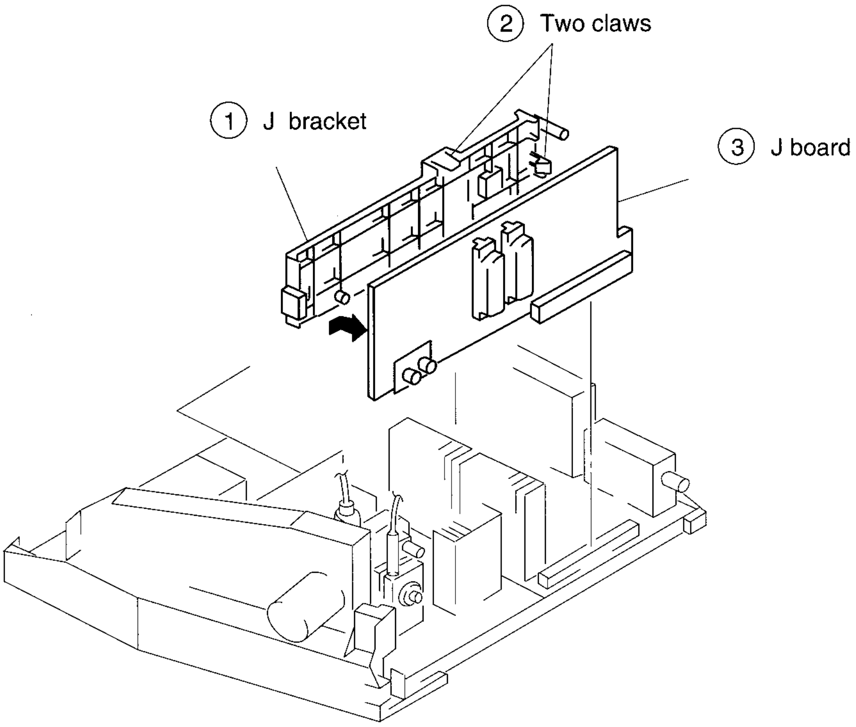
2-5. M2 AND A1 BOARD REMOVAL


① Support (M2)
② M2 board
③ A1 board
(KV-X2973E/X2972U only)

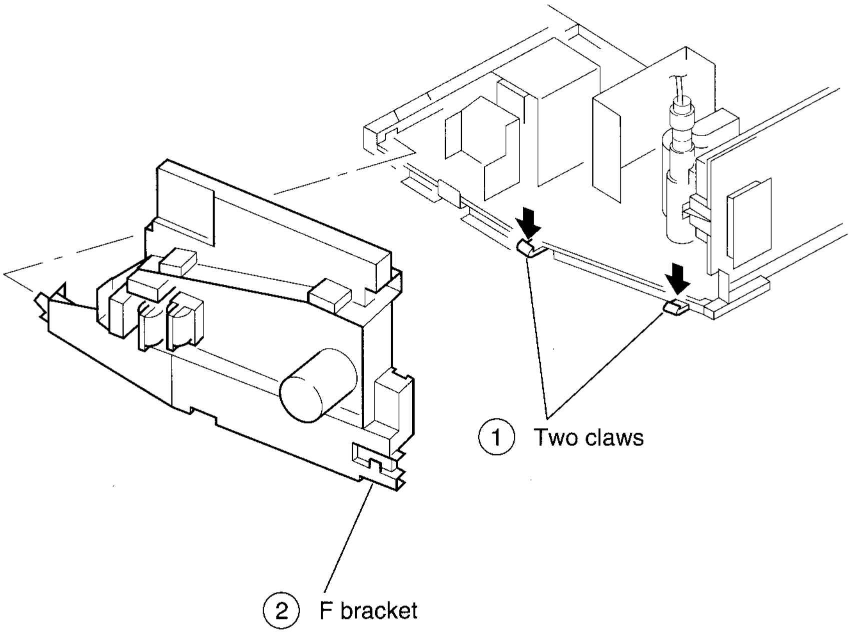
2-6. D4 AND D5 BOARD REMOVAL


② D4 board support
④ D4 board
① Claw
⑥ D5 board
⑤ Claw
③ Claw

2-7. J BOARD REMOVAL

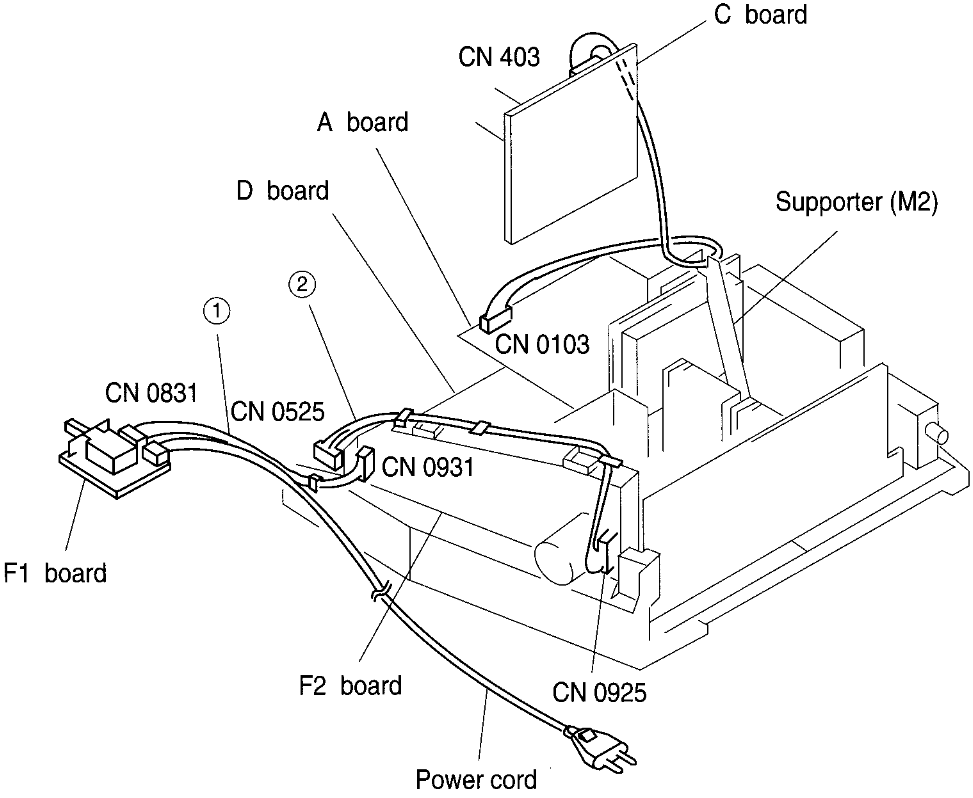

② Two claws
① J bracket
③ J board

2-8. F BRACKET REMOVAL

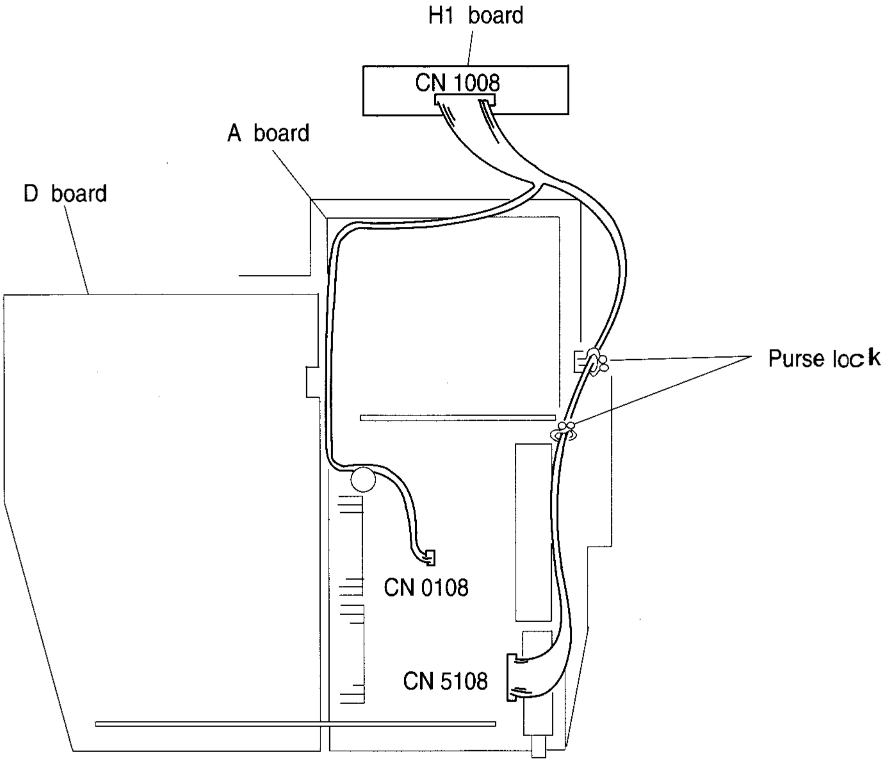

① Two claws
② F bracket

2-9-1. WIRE DRESSING

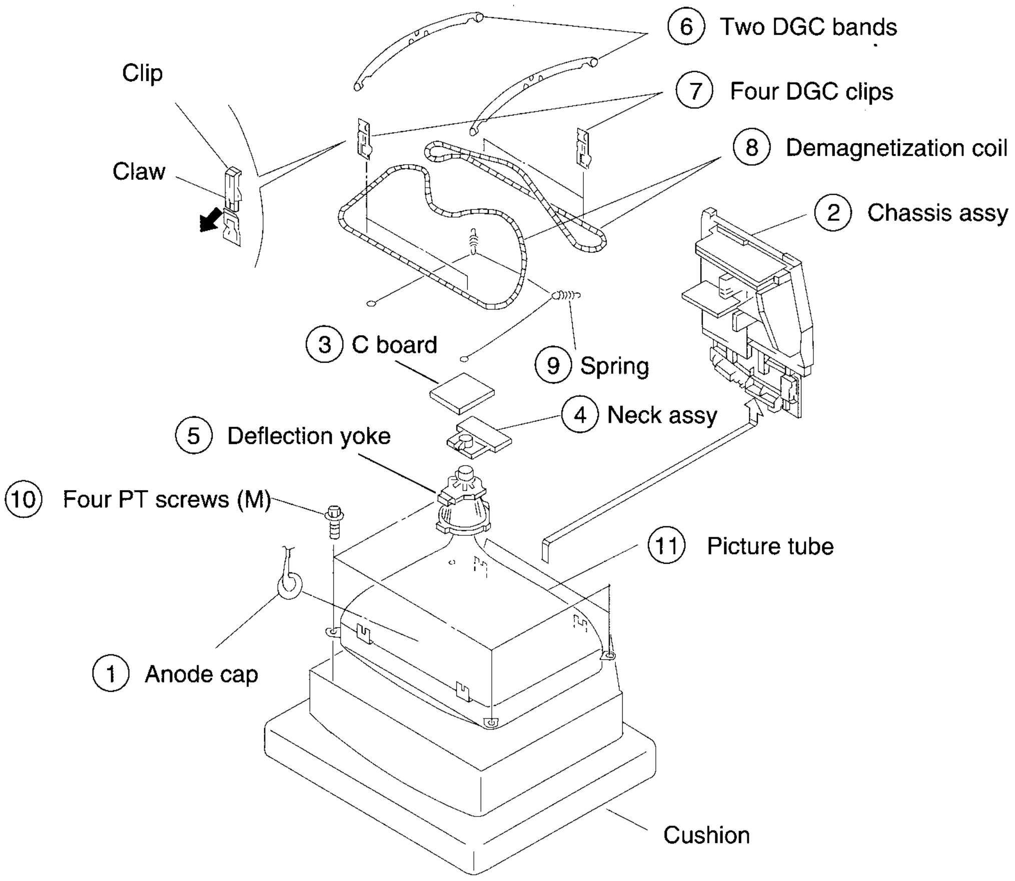
* Keep distance between ① and ②


C board
CN 403
A board
D board
Supporter (M2)
②
①
CN 0103
CN 0831
CN 0525
CN 0931
F1 board
F2 board
CN 0925
Power cord

2-9-2. WIRE DRESSING


H1 board
CN 1008
A board
D board
Purse lock
CN 0108
CN 5108

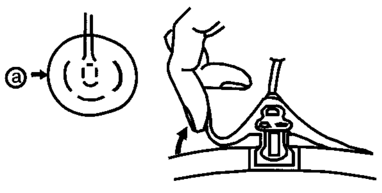
2-10. PICTURE TUBE REMOVAL


⑥ Two DGC bands
Clip
⑦ Four DGC clips
⑧ Demagnetization coil
Claw
② Chassis assy
③ C board
⑨ Spring
④ Neck assy
⑤ Deflection yoke
⑩ Four PT screws (M)
⑪ Picture tube
① Anode cap
Cushion

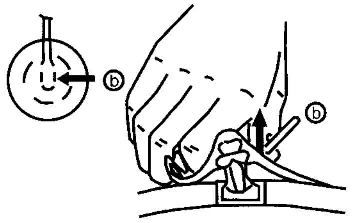
• REMOVAL OF ANODE-CAP

Note: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

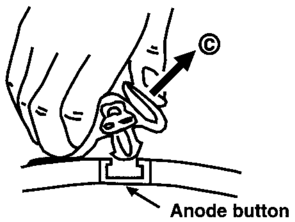
*** REMOVING PROCEDURES.**



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ


©
Anode button

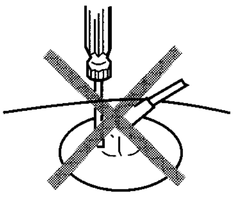
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow ⓒ

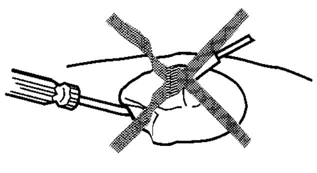
• HOW TO HANDLE AN ANODE-CAP

① Don't damage the surface of anode-cap with sharp shaped material !

② Don't press the rubber hardly not to hurt inside of anode-caps !
A metal fitting called as shatter-hook terminal is built into the rubber.

③ Don't turn the foot of rubber over hardly !
The shatter-hook terminal will stick out or damage the rubber.





SECTION 3
SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :

◑ Contrast .... 80% (or remote control normal)
☼ Brightness 50%

- Carry out the following adjustments in this order :

1. Beam landing
2. Convergence
3. Focus
4. White balance

Note: Testing equipment required.

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations:

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast
   Brightness } normal
2. Position neck assy as shown in Fig.3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Fig.3-1 - 3-3)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Fig.3-1)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig.3-4)

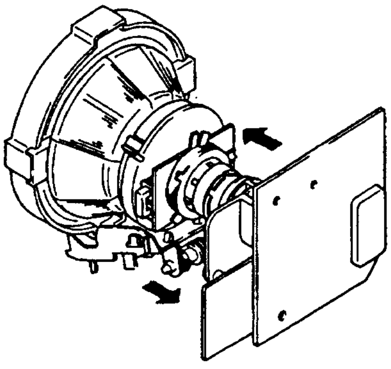


Fig.3-1

Fig.3-2

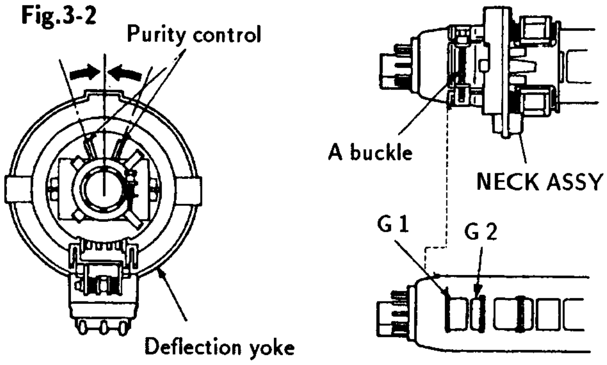
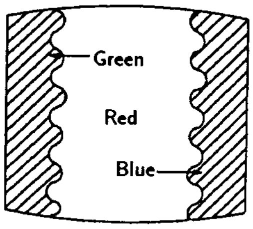

Purity control
A buckle
NECK ASSY
G 1
G 2
Deflection yoke

Fig.3-3


Green
Red
Blue

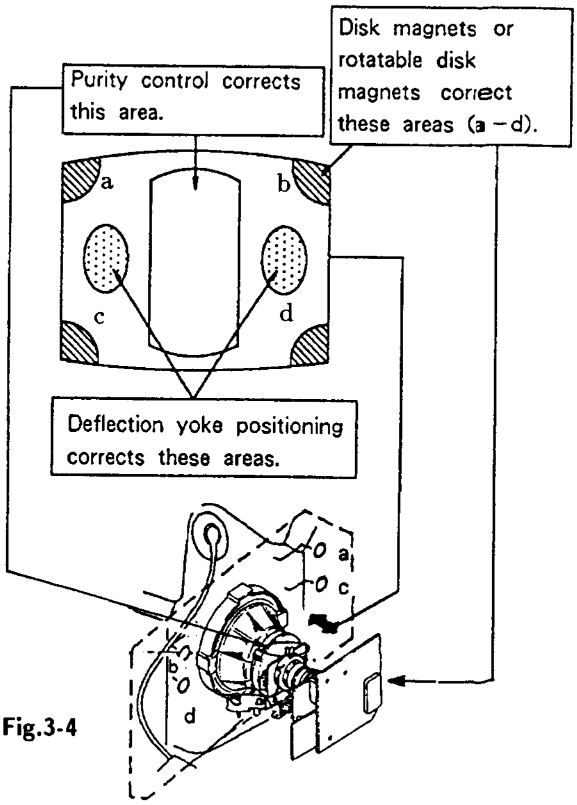

Disk magnets or rotatable disk magnets correct these areas (a − d).
Purity control corrects this area.
a
b
c
d
Deflection yoke positioning corrects these areas.
a
c
b
d

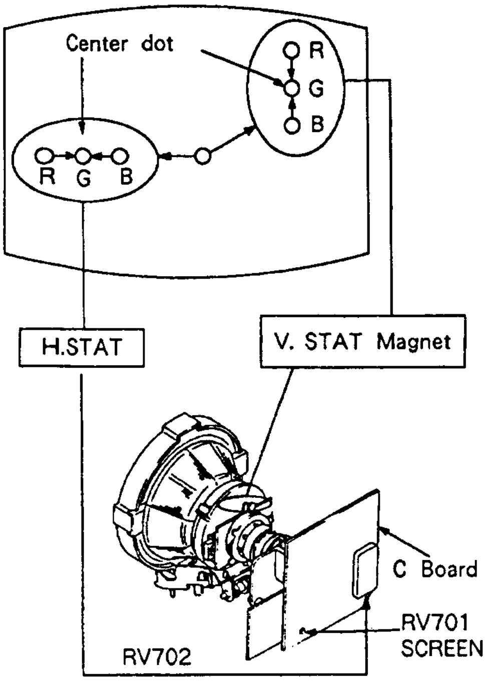
Fig.3-4

3-2. CONVERGENCE

Preparations :

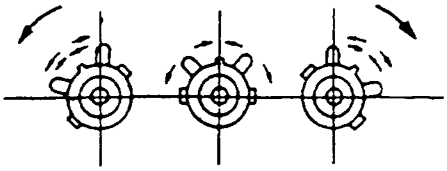
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence



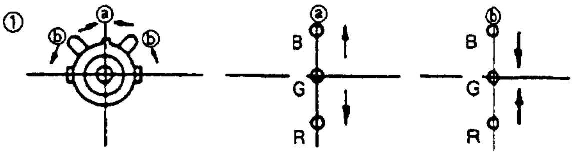
1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.

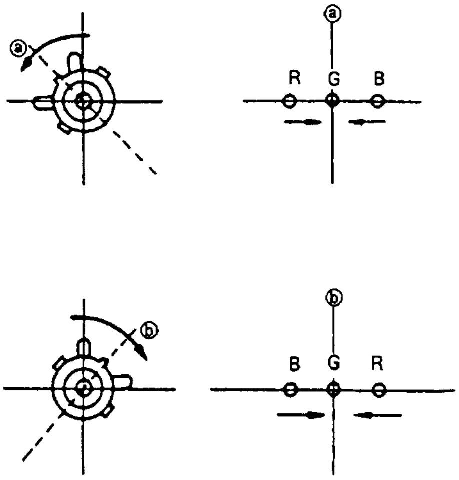


4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.

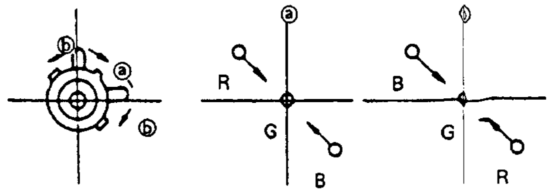
①



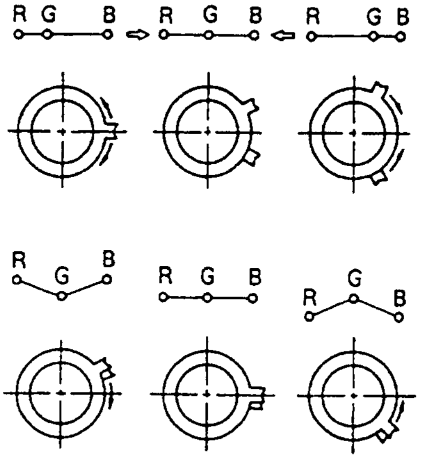
②



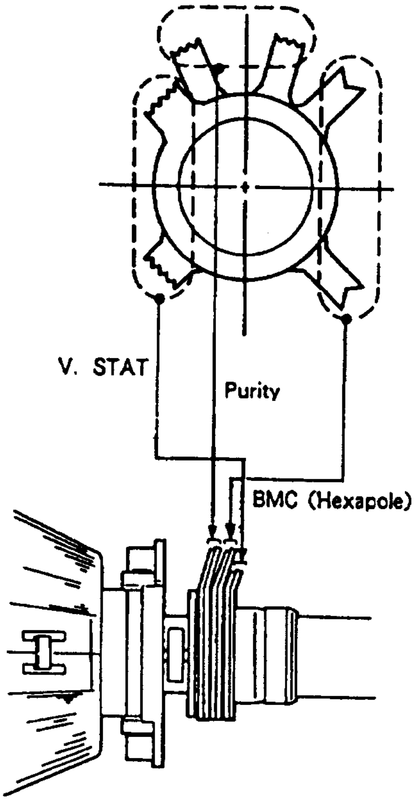
③



- Operation of BMC (Hexapole) Magnet


R G B
R G B
R G B
R G B
R G B
R G B

- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

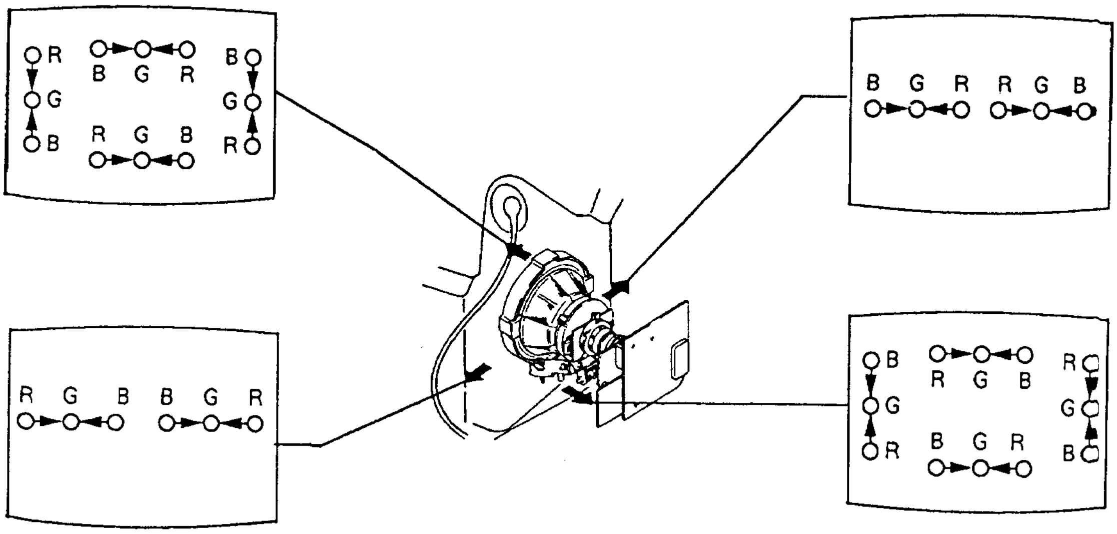

V. STAT
Purity
BMC (Hexapole)

(2)Dynamic convergence adjustment

Preparations :

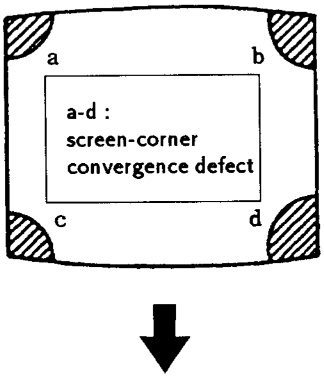
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

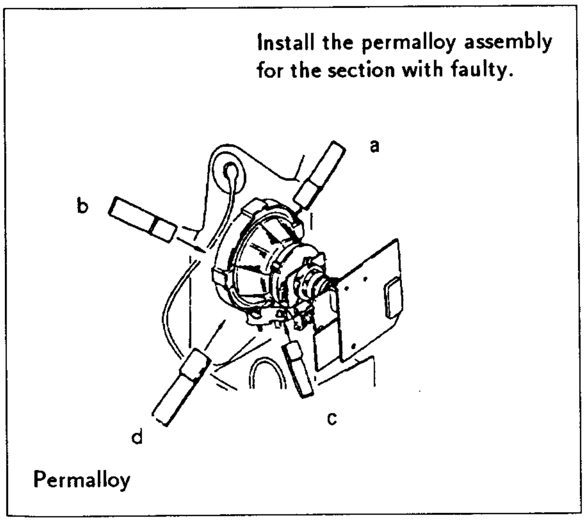
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.


R G B
B G R
R G B
B G R
B G R R G B
R G B B G R
B G R
R G B
R G B
B G R
R G B
B G R

(3) Screen corner convergence

If you cannot adjust corner convergence properly, correct them with permalloy.

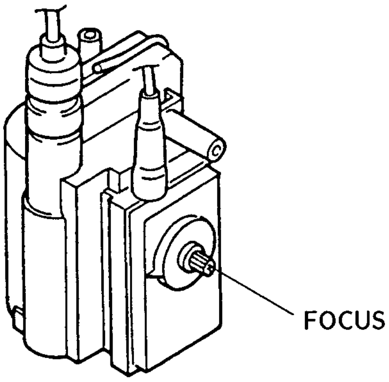




Install the permalloy assembly for the section with faulty.

3-3. FOCUS

Adjust the focus to optimize the screen.



3-4. WHITE BALANCE

Screen G2 Setting

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180V DC to the R,G, and B cathodes with an external power supply.
4. While watching the picture, adjust G 2 control RV 701 (Screen) to the point just before the return lines disappear.

White balance adjustment

1. Receive all-white signal.
2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" to how to enter service mode.)
3. Select CXA1587S on menu.

09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.

4. Set picture to MAX.
5. Adjust G-DRIVE B-DRIVE with ▲, ▼ buttons so that the white balance becomes optimum.
6. Press OK button to write the data for each item.
7. Set picture to MIN.
8. Adjust G-AUTO CUT OFF, B-AUTO CUT OFF, R-MANUAL CUT OFF, G-MANUAL CUT OFF and B-MANUAL CUT OFF with ▲, ▼ buttons so that the white balance becomes optimum.
9. Press OK button to write the data for each item.

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-831

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing any two buttons on the front panel.

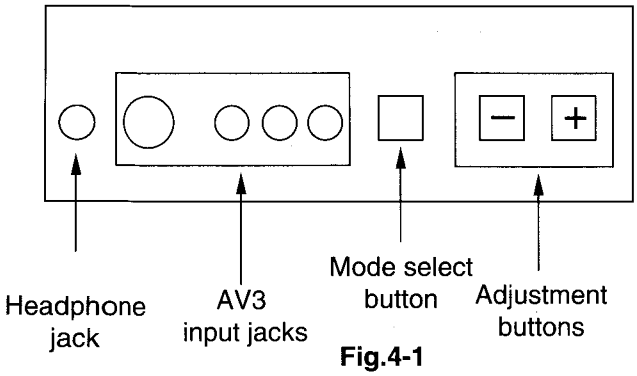


Fig.4-1

2. "TT" will appear at the upper right corner of the screen.

Command operation in service mode.

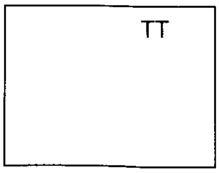


Fig.4-2

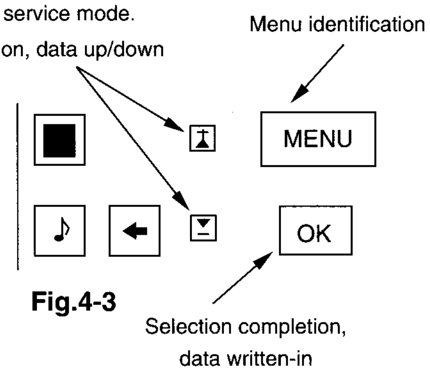
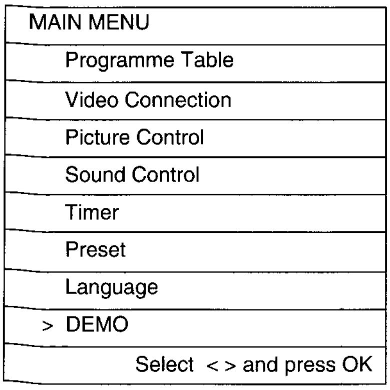

Item selection, data up/down
Menu identification
MENU
OK
Selection completion, data written-in

Fig.4-3

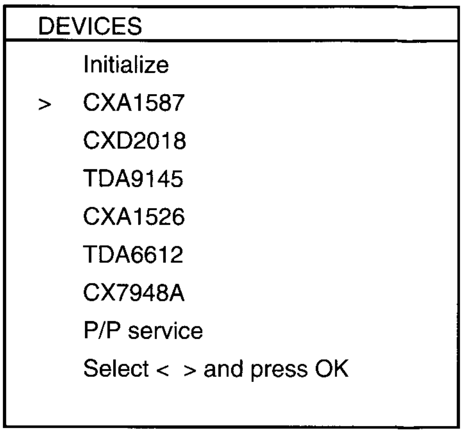
3. Press the MENU button on the remote commander to obtain the menu on the screen.



MAIN MENU
Programme Table
Video Connection
Picture Control
Sound Control
Timer
Preset
Language
> DEMO
Select < > and press OK

Fig.4-4

4. Press the ▲ and ▼ buttons on the remote commander and move > to DEMO.
5. Press OK button to proceed to the next menu.
6. The menu of fig. 4-5 will appear on the screen. Select the DEVICE corresponding to the adjustment item from the table on the next page.



DEVICES
Initialize
> CXA1587
CXD2018
TDA9145
CXA1526
TDA6612
CX7948A
P/P service
Select < > and press OK

Fig. 4-5

7. If adjustment item is CXA1587, press the ▼ button and move > to CXA1587.

CXA1587

Item No	Adjustment item	Data Amount
01	PICTURE	53
02	COLOR	31
03	BRIGHT	31
04	HUE	31
05	SHARPNESS	12
06	RGB PICTURE	7
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
> 09	SUB BRIGHT	ADJ.
10	SUB HUE	8
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.

8. Press OK button to get the next selection menu.
9. Press ▼ button and move > to the adjustment item and press OK button.
10. Press ▲ and ▼ buttons to change the data in order to comply with each standard.
11. Press OK button to write data.
12. Turn off the power to quit service mode when adjustments are completed.

CXA1587

Item No	Adjustment item.	Data Amount
01	PICTURE	53
02	COLOR	31
03	BRIGHT	31
04	HUE	31
05	SHARPNESS	12
06	RGB PICTURE	7
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
09	SUB BRIGHT	ADJ.
10	SUB HUE	8
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.
21	GAMMA LEVEL	8
22	DC TRANSFER RATIO	3
23	DYNAMIC PICTURE	2
24	Y FILTER ADJ	ADJ.
25	Y DELAY TIME	15
26	Y DELAY SWITCH 1	0
27	Y DELAY SWITCH 2	1
28	SHARPNESS LIMIT	ON
29	TRAP	OFF
30	H SHIFT	36
31	DA TEST	ON
32	PRE/OVER	12
33	SUB FOCUS	2
34	SUB SHARPNESS	3
35	R MUTE	OFF
36	G MUTE	OFF
37	B MUTE	OFF
38	AGING 1 WHT	OFF
39	AGING 2 BLK	ON
40	AKB OFF	ON
41	INHIBIT RGB	ON
42	FORCED RGB	OFF
43	V/2 V	OFF
44	AXIS	PAL
45	HUE OFF	OFF
46	V EXTENSION	OFF
47	AFC 1	1
48	AFC 2	0
49	AFC	OFF
50	REF. POSITION	0

CXD2018

Item No	Adjustment item.	Data Amount
01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP. V	12
13	HV COMP. H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAN	OFF
19	INTERLACE	ON
20	H SHIFT	26
21	N/S CORRECTION	ADJ.

Typical On Screen Display based values when receiving PAL Phillips pattern.

TDA6612	ADJ
Stereo-Separation	(31)

Should be adjusted twice, once for 4 : 3 and once for 16 : 9 mode.

Y FILTER ADJUSTMENT

1. Input a PAL RED pattern.
2. Connect an oscilloscope to pin ① of CN0403 (R OUT) on C board.
3. Enter into service mode and press 3,8.
4. Adjust data by △ or ▽ to minimize the chroma element at CN0403 pin ①.

SUB BRIGHTNESS ADJUSTMENT

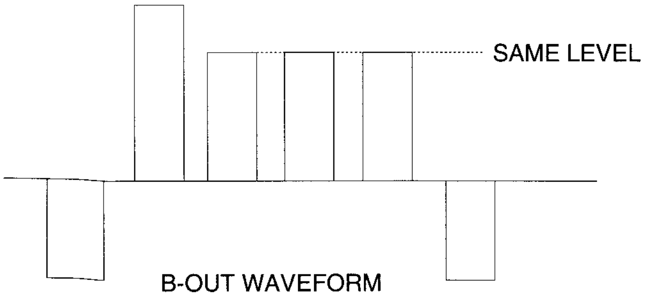
1. Input a Phillips pattern.
2. Enter into service mode and press 23.
3. Adjust data so that 0-IRE of grey scale and CUT-OFF 20-IRE are only slightly visible on screen.

SUB CONTRAST ADJUSTMENT

1. Input a video that contains a small 100% area on a Black Background.
2. Enter into service mode and press 01 to have PIC max followed by 21.
3. Connect oscilloscope to pin ① of CN0403 (R OUT) and adjust data to obtain 2.5Vp-p.

SUB COLOR ADJUSTMENT

1. Input a PAL color bar signal.
2. Connect an oscilloscope to pin ③ of CN0403 (B OUT) on the C board.
3. Enter into service mode and press 22 of CXA1587, 8 SUB COLOR.
4. Adjust data so that the right sides of the waveform are set to the same level.



B-OUT WAVEFORM

STEREO-SEPARATION ADJUSTMENT

1. Input a 1kHz stereo signal to the L-ch and a 400Hz stereo signal to the R-ch.
2. Enter into service mode and press 19.
3. Adjust data so that sound is not detected in the Right-ch and the Left-ch.

DRIVE AND CUT-OFF

See direct test mode list attached and refer to sub brightness or such for adjustment method.

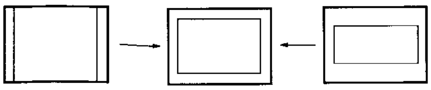
DEFLECTION SYSTEM ADJUSTMENT

1. Enter into service mode and select CXD2018.
2. Select and adjust each item in order to obtain the optimum image.

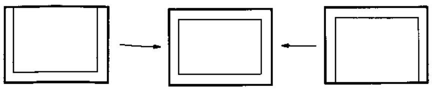
CXD2018

Item No	Adjustment item.	Data Amount
01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP. V	12
13	HV COMP. H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAN	OFF
19	NON INTERLACE	ON
20	H SHIFT	26
21	N/S CORRECTION	ADJ.

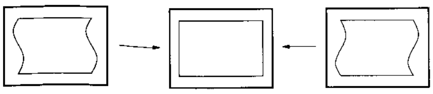
V SIZE



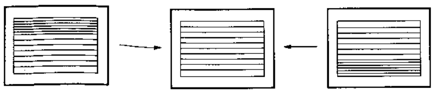
V SHIFT



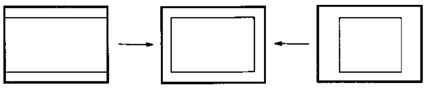
S CORRECTION



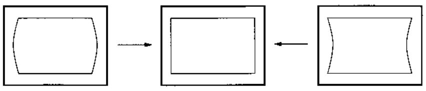
V LINEARITY



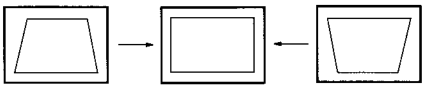
H SIZE



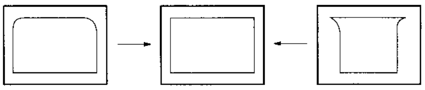
PIN AMP



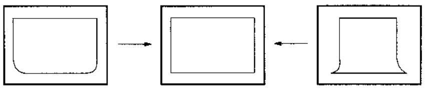
TILT



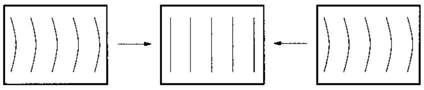
UPPER CORNER PIN



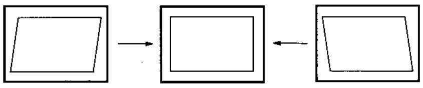
LOWER CORNER PIN



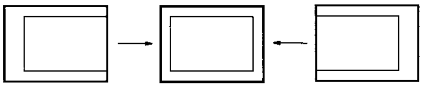
V BOW



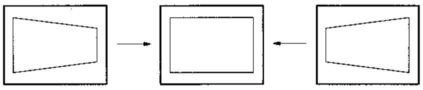
ANGLE



H SHIFT



N/S CORRECTION



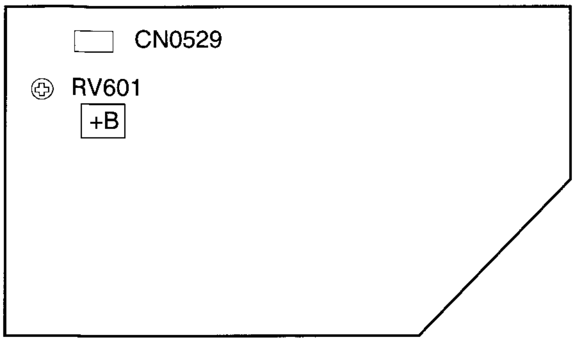
3. Press OK button to write data.

If the menu display prevents accurate adjustment, press to clear, to resume, press once again.

4-2. VOLUME ELECTRICAL ADJUSTMENTS

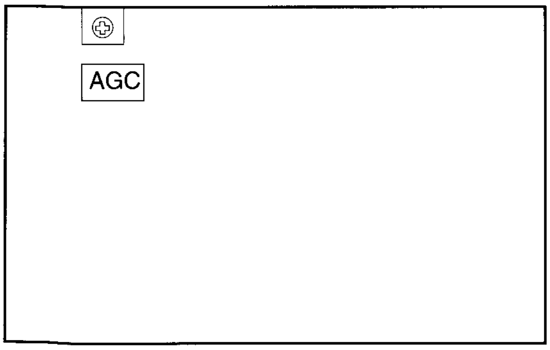
+B (+135V) ADJUSTMENT (RV601)

D BOARD



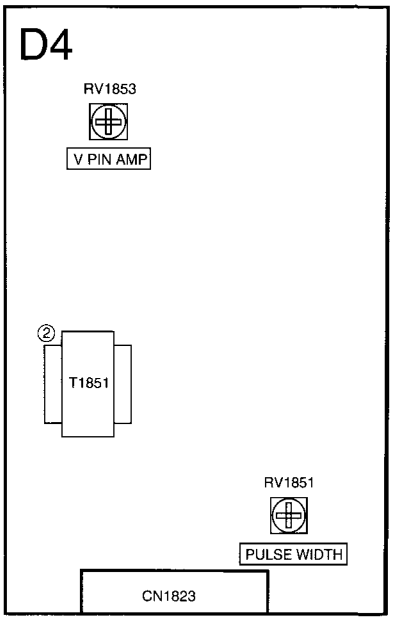
1. Switch on the power to the TV set.
2. Connect a digital multi-meter to pin ① of CN0529 on D board.
3. Adjust RV601 on D board to +135V ± 0.5V.

AGC ADJUSTMENT (IF BLOCK)

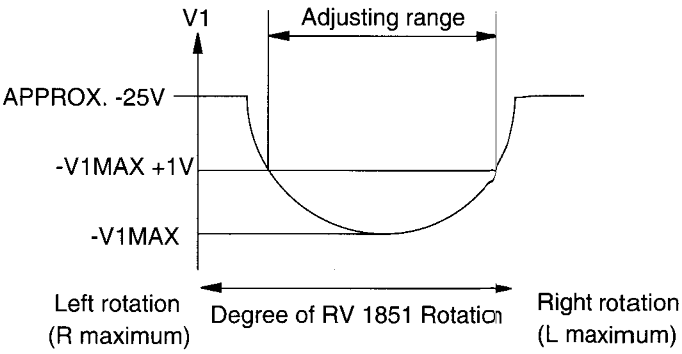


1. Receive an off-air signal.
2. Adjust the AGC VR so that there is no snow noise or cross-modulation visible on the screen.
3. Change the receiving channel and confirm status.

PULSE WIDTH & V-PIN ADJUSTMENTS (RV 1851/1853



1. Connect an oscilloscope to pin ② of T1851.
2. Preset RV-1853 to center of its range (mechanical center).
3. Adjust RV-1851 to obtain minimum amplitude.
4. Switch the oscilloscope input to D.C.and adjust RV-1853 to obtain -33.2 ± 0.5V.



4-3. TEST MODE 2 :

Is available by pressing Test button twice, OSD 'TT' appears. The functions described below are available by pressing the two numbers. To release the Test Mode 2, press 0 twice, or switch the TV into Stand-by Mode.

00	switch Test Mode 2 off
01	picture maximum
02	picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Ageing Condition (Volume min., Picture max., Brightness max., Ageing 2 Mode of CXA1587, TDA2595 is locked to CXA1587 via PIN 34 of µ-Con.)
08	Shipping Condition (Analog Values are RESET due to factory setting, Prog 1 is selected, TT Mode is switched off)
09	dummy
10	Tenth entry is deleted
11	Balance
12	Hue
13	Display of Software Version and TV set configeration
14	Adjustment of N/S Correction
15	Read factory setting from NVM Reads Volume, Balance, Treble, Bass, Brightness, Contrast, Hue, Sharpness, Colour values from ROM to the actual used values (Last Power Memory)
16	Save actual used values as RESET values Memorize actual used values Balance, Treble, Bass, Hue, Sharpness at RESET position in NVM.
17	Preset Level for AV Sources
18	dummy
19	Stereo Seperation
20	Tenth entry is deleted
21	Sub Contrast
22	Sub Colour
23	Sub Brightness
24-29	dummy

30	Tenth entry is deleted
31	Green Drive
32	Blue Drive
33	Green Cut Off (Auto Cut Off)
34	Blue Cut Off (Auto Cut Off)
35	Red Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
36	Green Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
37	Blue Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
38	Y-Filter adjustment (Trap is switched off and TDA9145 is switched in forced NTSC Mode)
39	dummy
40	Tenth entry is deleted
41	Default setting of CXA1587 (Only available in Prog 99)
42	Default setting of CXA2018 (Only available in Prog 99)
43	Default setting of CXA1526 (Only available in Prog 99)
44	(all Port High) Not yet
45	(all Port High) Not yet
46	IR Channel Pressetting Mode The channel pressetting can be done by a Special IR Transmitter
47-48	dummy
49	Erase the NVM Testbyte (this byte detects already stored NVM's) After selecting this function, switch TV Off and On -> the NVM will be preset by µ-Controller. (Not the channel data)

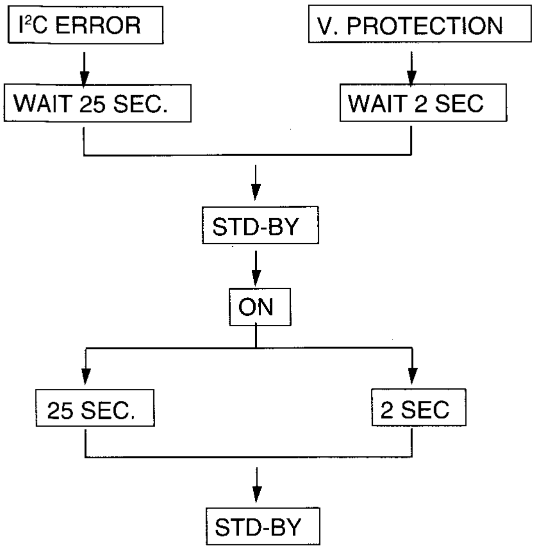
Note: For No 35, 36, 37 and 38 special pressing (AKB, forced Color Mode, Trap) is selected. After selecting a new Test Mode Number, the AKB is switched ON, the Trap is switched ON and TDA9145 is switched to Auto Search Mode.

In Test Mode 2 the Menu display is switchable by the Speaker-Off button.

4-4. ERROR MESSAGE

Self diagnostic system operates as follows.

- When the microprocessor is unable to receive an acknowledgement back from the device, the LED starts flashing according to the table below.



In the case of more than one error in parallel, the blinking error shows max priority according to the error number (e.g. error 2 and error 5 appear together, then LED,s show error 2).

ERROR TABLE

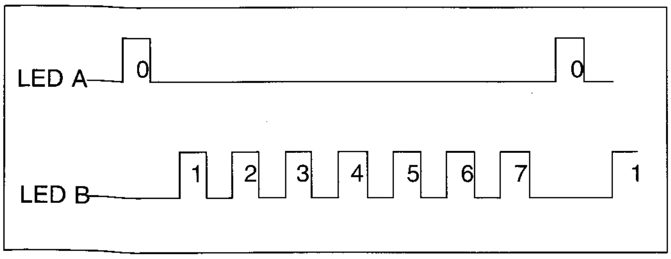
ERROR COUNT	IC TYPE	FUNCTION
1	II C BUS	SDA low
2	X24C16	EPROM
4	TDA9145	Colour decoder
5	CXA1587	RGB/Jungle
6	TDA6612	Sound processor
7	CXD2018	V deflection
8	CXA1545	AV switch
11	SDA5248	Text
13		V protection

Stand By LED blinking　　No 1K return

4-5. ERROR I^{2}C BUS DIAGNOSTIC SYSTEM FOR AE2-B CHASSIS.

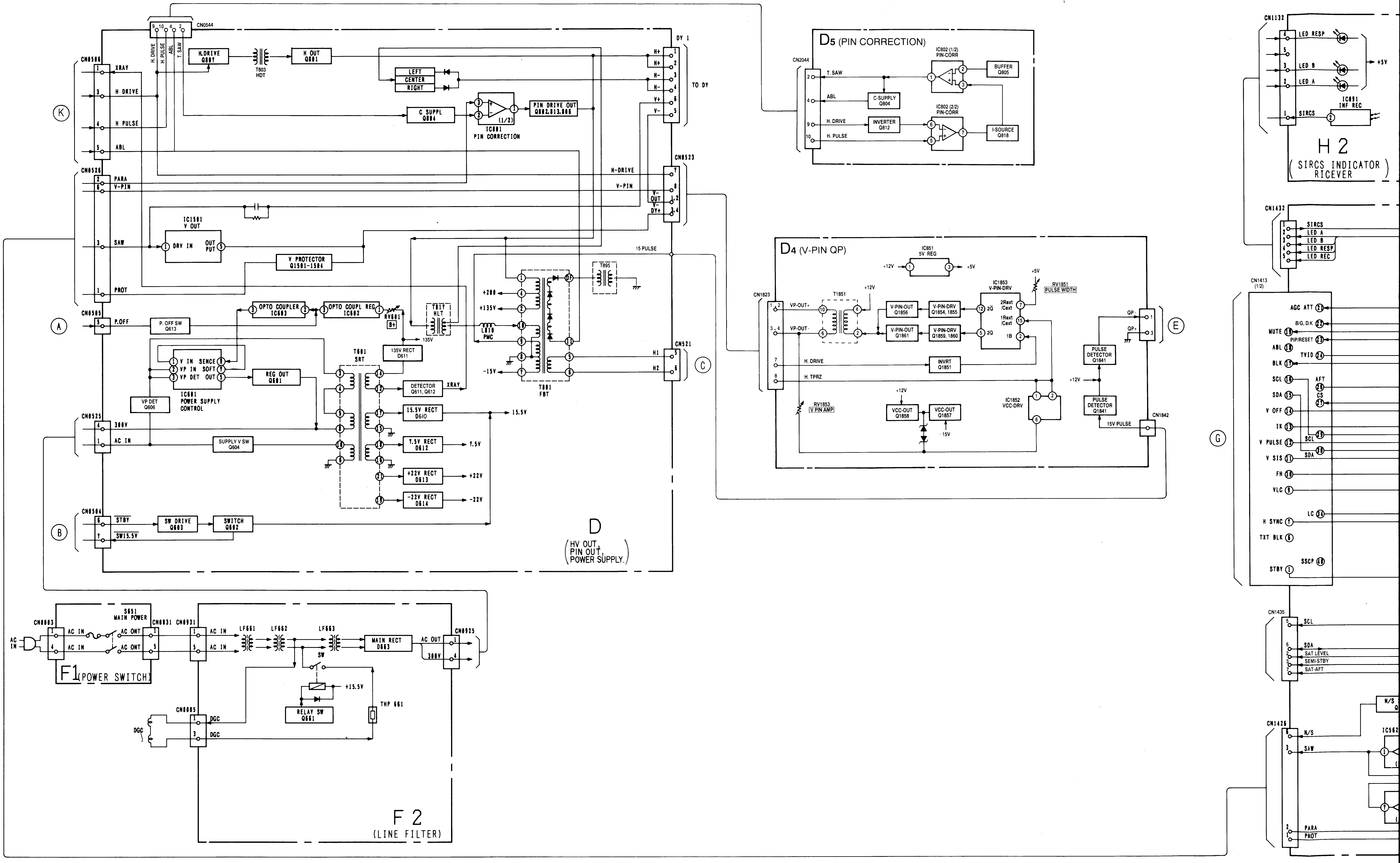
For all IC's used in the AE 2-B chassis which are necessary to obtain picture and sound there is an inbuilt I^2C Bus diagnostic system.

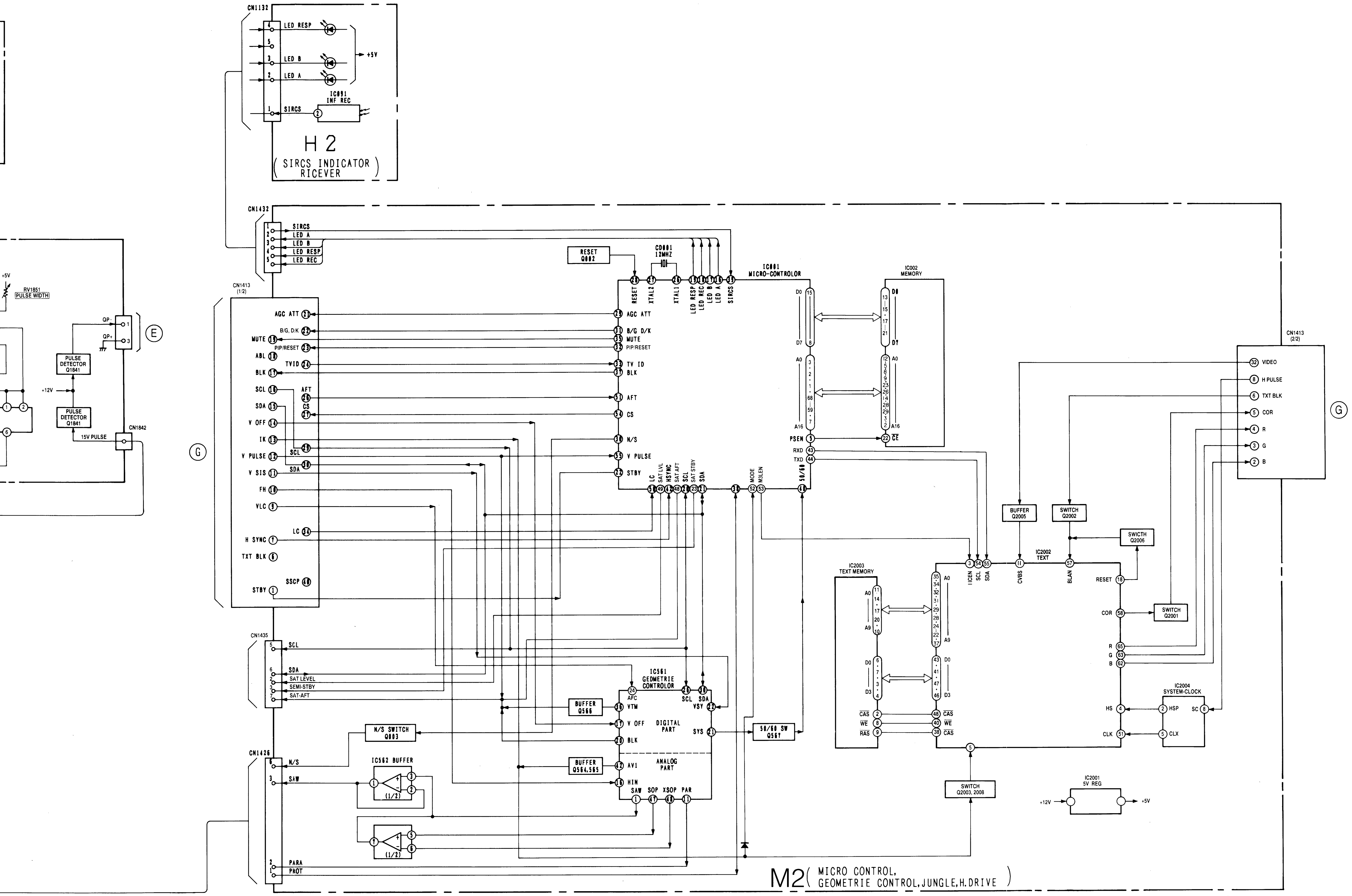
In the case of no acknowledge bit, LED A and LED B start blinking as shown.



SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAM (1)

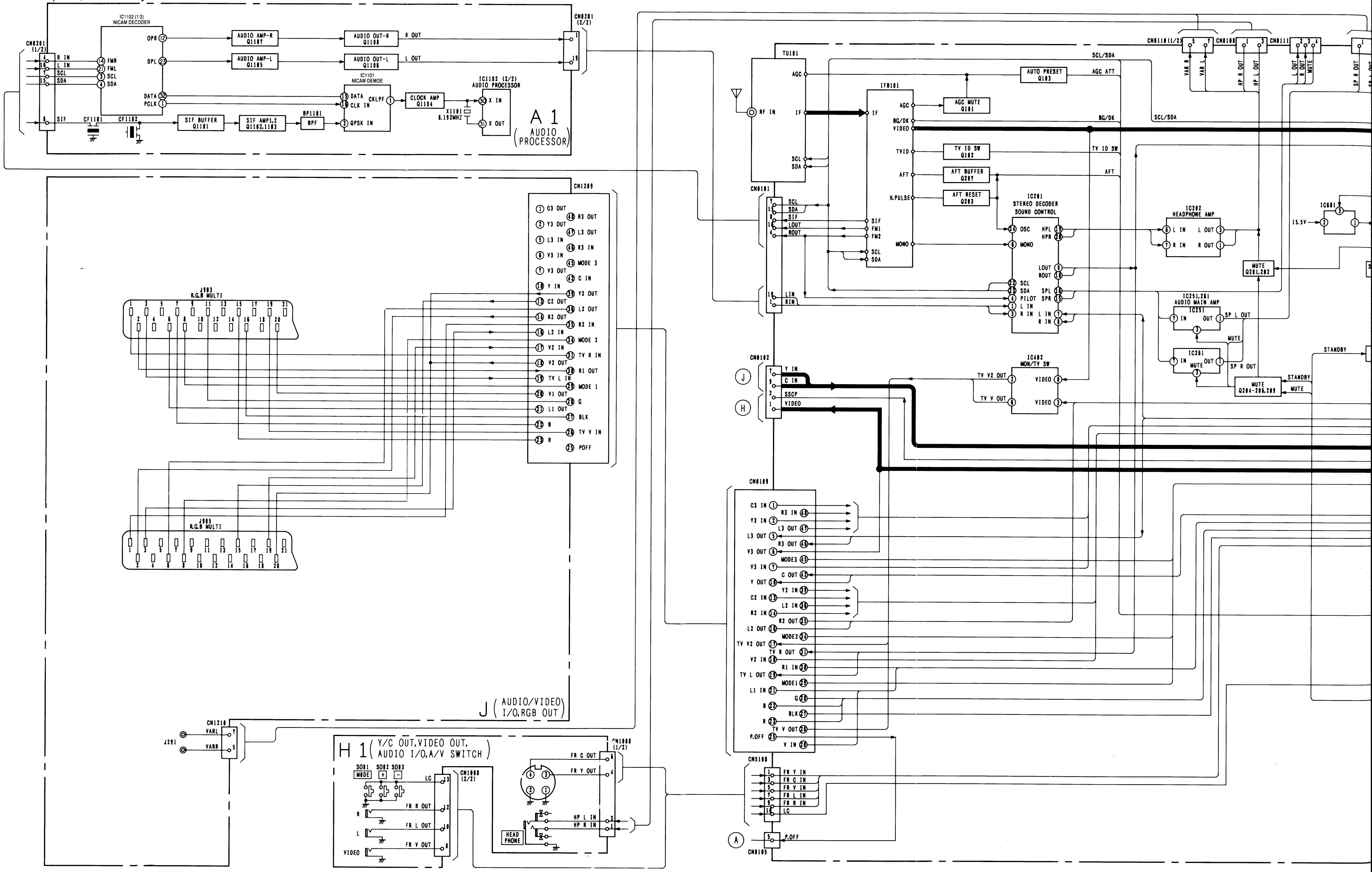

CN0544
H. DRIVE
H. PULSE
ABL
T. SAW
H.DRIVE Q807
T803 HDT
H OUT Q801
LEFT
CENTER
RIGHT
C SUPPL Q804
IC801 (1/2) PIN CORRECTION
PIN DRIVE OUT Q802,813,806
DY 1
H+
H-
V+
V-
TO DY
CN0506
XRAY
H DRIVE
H PULSE
ABL
K
CN0526
PARA
V-PIN
SAW
PROT
CN0523
H-DRIVE
V-PIN
V-OUT
V-DY+
IC1501 V OUT
DRV IN
OUT PUT
V PROTECTOR Q1501-1504
15 PULSE
T895
CN0505
A
P.OFF
P. OFF SW Q613
OPTO COUPLER IC603
OPTO COUPL REG IC602
RV601
B+
T801 HLT
L810 PMC
135V
135V RECT D611
V IN SENCE
VP IN SOFT
VP DET OUT
IC601 POWER SUPPLY CONTROL
VP DET Q606
REG OUT Q601
T601 SRT
DETECTOR Q611, Q612
XRAY
+200
+135V
-15V
T801 FBT
CN521
H1
H2
C
15.5V RECT D610
15.5V
7.5V RECT D612
7.5V
+22V RECT D613
+22V
-22V RECT D614
-22V
CN0525
300V
AC IN
SUPPLY V SW Q604
CN0504
B
STBY
SW15.5V
SW DRIVE Q603
SWITCH Q602
D
(HV OUT, PIN OUT, POWER SUPPLY.)
CN0003
AC IN
S651 MAIN POWER
AC ONT
F1 (POWER SWITCH)
CN0031 CN0931
LF661
LF662
LF663
SW
MAIN RECT D663
AC OUT
300V
CN0925
+15.5V
RELAY SW Q661
THP 661
CN0005
DGC
F 2 (LINE FILTER)
D5 (PIN CORRECTION)
CN2044
T. SAW
ABL
H. DRIVE
H. PULSE
C-SUPPLY Q804
INVERTER Q812
IC802 (1/2) PIN-CORR
IC802 (2/2) PIN-CORR
BUFFER Q805
I-SOURCE Q818
D4 (V-PIN QP)
IC851 5V REG
+12V
+5V
CN1823
VP-OUT+
VP-OUT-
T1851
V-PIN-OUT Q1856
V-PIN-DRV Q1854, 1855
V-PIN-OUT Q1861
V-PIN-DRV Q1859, 1860
IC1853 V-PIN-DRV
2Rext /Cext
1Rext /Cext
2Q
1Q
1B
RV1851 PULSE WIDTH
H. DRIVE
H. TPRZ
INVRT Q1851
RV1853 V PIN AMP
VCC-OUT Q1858
VCC-OUT Q1857
-15V
IC1852 VCC-DRV
PULSE DETECTOR Q1841
QP-
QP+
15V PULSE
CN1842
E
CN1132
LED RESP
LED B
LED A
SIRCS
IC091 INF REC
+5V
H 2 (SIRCS INDICATOR RICEVER)
CN1432
SIRCS
LED A
LED B
LED RESP
LED REC
CN1413 (1/2)
AGC ATT
B/G, D/K
MUTE
PIP/RESET
ABL
TVID
BLK
SCL
AFT
SDA
CS
V OFF
IK
V PULSE
SCL
V SIS
SDA
FH
VLC
LC
H SYNC
TXT BLK
SSCP
STBY
G
CN1435
SCL
SDA
SAT LEVEL
SEMI-STBY
SAT-AFT
CN1426
N/S
SAW
IC562
PARA
PROT

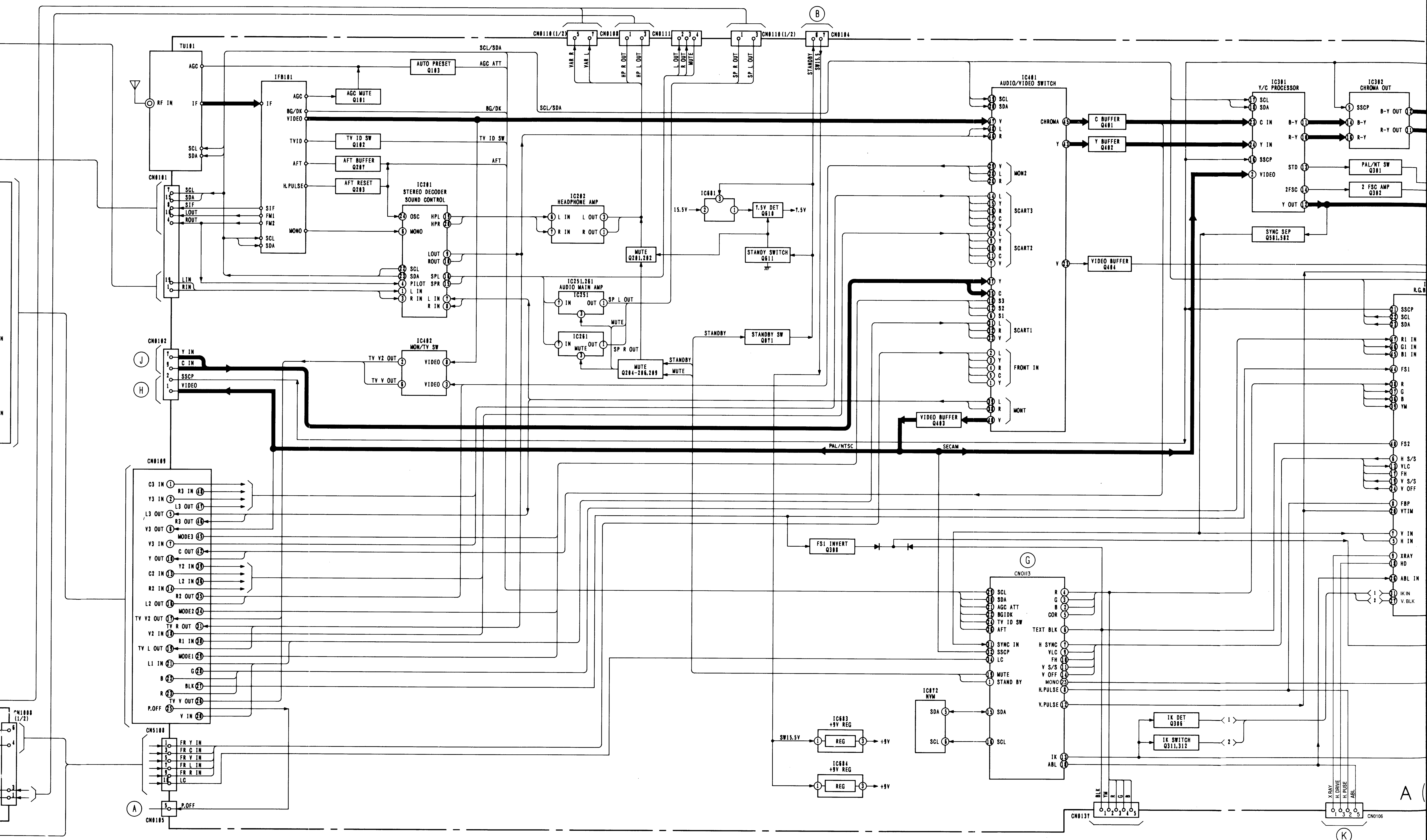

CN1132
LED RESP
LED B
LED A
SIRCS
+5V
IC091 INF REC
H 2
(SIRCS INDICATOR RICEVER)
CN1432
SIRCS
LED A
LED B
LED RESP
LED REC
RESET Q002
CD001 12MHZ
IC001 MICRO-CONTROLOR
RESET
XTAL2
XTAL1
AGC ATT
B/G D/K
MUTE
PIP/RESET
TV ID
BLK
AFT
CS
N/S
V PULSE
STBY
LC
SAT LVL
HSYNC
SAT AFT
SCL
SAT STBY
SDA
MODE
M3LEN
50/60
D0
D7
A0
A16
PSEN
RXD
TXD
IC002 MEMORY
CE
CN1413 (1/2)
AGC ATT
B/G, D/K
MUTE
PIP/RESET
ABL
TVID
BLK
SCL
SDA
V OFF
IK
V PULSE
V SIS
FH
VLC
LC
H SYNC
TXT BLK
SSCP
STBY
CN1413 (2/2)
VIDEO
H PULSE
TXT BLK
COR
R
G
B
G
BUFFER Q2005
SWITCH Q2002
SWICTH Q2006
IC2002 TEXT
ICEN
SCL
SDA
CVBS
BLAN
RESET
COR
SWITCH Q2001
HS
CLK
IC2003 TEXT MEMORY
A0
A9
D0
D3
CAS
WE
RAS
IC2004 SYSTEM-CLOCK
HSP
SC
CLX
SWITCH Q2003, 2008
IC2001 5V REG
+12V
+5V
CN1435
SCL
SDA
SAT LEVEL
SEMI-STBY
SAT-AFT
IC561 GEOMETRIE CONTROLOR
AFC
VTM
V OFF
BLK
AVI
HIN
SAW
SOP
XSOP
PAR
SCL
SDA
VSY
SYS
DIGITAL PART
ANALOG PART
BUFFER Q566
BUFFER Q564, 565
N/S SWITCH Q003
50/60 SW Q567
IC562 BUFFER
(1/2)
CN1426
N/S
SAW
PARA
PHOT
M2 (MICRO CONTROL, GEOMETRIE CONTROL, JUNGLE, H.DRIVE)
+5V
RV1851 PULSE WIDTH
QP-
QP+
E
PULSE DETECTOR Q1841
+12V
15V PULSE
CN1842
G

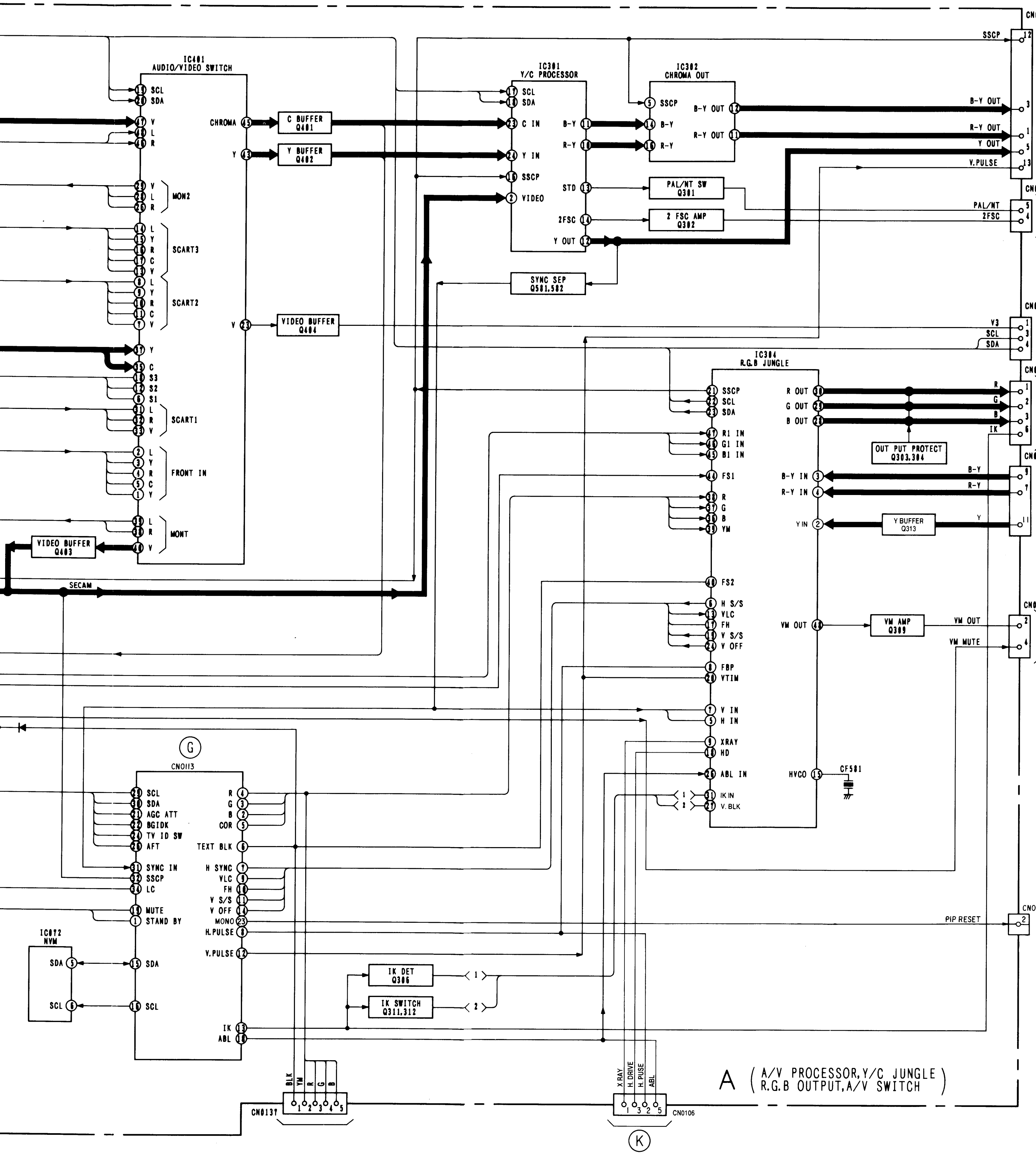
43

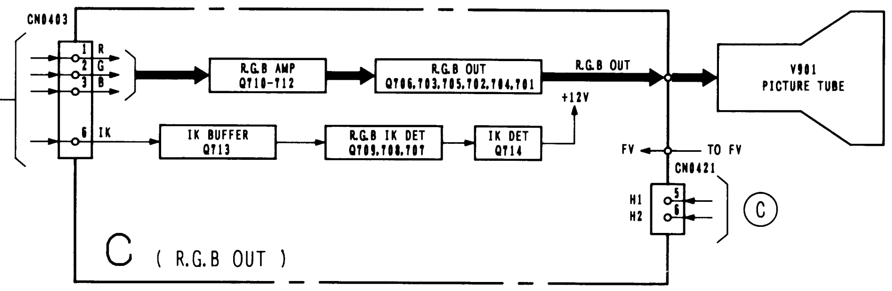
BLOCK DIAGRAM (2)

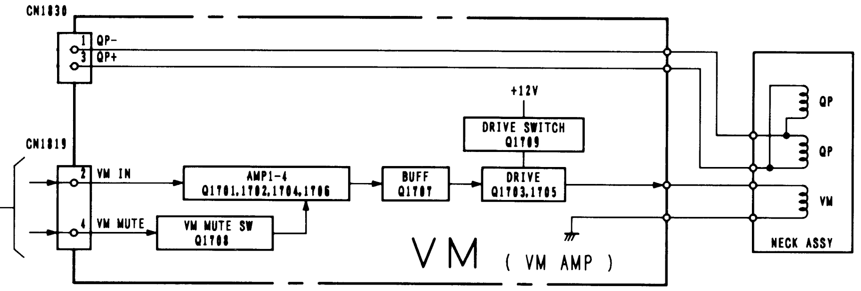
Spanish, UK model only


CN0201 (1/2)
R IN
L IN
SCL
SDA
SIF
CF1101
CF1102
IC1102 (1/2) NICAM DECODER
FMR
FML
OPR
DPL
DATA
PCLK
AUDIO AMP-R Q1107
AUDIO AMP-L Q1105
AUDIO OUT-R Q1108
AUDIO OUT-L Q1106
R OUT
L OUT
CN0201 (2/2)
IC1101 NICAM DEMOD
DATA
CLK IN
CKLPF
QPSK IN
CLOCK AMP Q1104
X1101 8.192MHZ
IC1102 (2/2) AUDIO PROCESSOR
X IN
X OUT
SIF BUFFER Q1101
SIF AMP1,2 Q1102,1103
BP1101 BPF
A 1 (AUDIO PROCESSOR)
CN1209
C3 OUT
Y3 OUT
L3 IN
V3 IN
V3 OUT
Y IN
C2 OUT
R2 OUT
L2 IN
V2 IN
V2 OUT
TV L IN
V1 OUT
L1 OUT
B
R
R3 OUT
L3 OUT
R3 IN
MODE 3
C IN
Y2 OUT
L2 OUT
R2 IN
MODE 2
TV R IN
R1 OUT
MODE 1
G
BLK
TV V IN
POFF
J903 R.G.B MULTI
J905 R.G.B MULTI
J (AUDIO/VIDEO I/O,RGB OUT)
CN1210
J291
VARL
VARR
H 1 (Y/C OUT,VIDEO OUT, AUDIO I/O,A/V SWITCH)
S001 MODE
S002 +
S003 −
LC
FR R OUT
FR L OUT
FR V OUT
R
L
VIDEO
CN1008 (2/2)
CN1008 (1/2)
FR C OUT
FR Y OUT
HP L IN
HP R IN
HEAD PHONE
TU101
AGC
RF IN
IF
SCL
SDA
IFB101
BG/DK
VIDEO
TVID
AFT
H.PULSE
SIF
FM1
FM2
MONO
AGC MUTE Q101
AUTO PRESET Q103
TV ID SW Q102
AFT BUFFER Q207
AFT RESET Q203
SCL/SDA
AGC ATT
TV ID SW
IC201 STEREO DECODER SOUND CONTROL
OSC
HPL
HPR
LOUT
ROUT
PILOT
SPL
SPR
L IN
R IN
CN0101
LOUT
ROUT
LIN
RIN
CN0110 (1/2)
CN0108
CN0111
VAR R
VAR L
HP R OUT
HP L OUT
L OUT
R OUT
MUTE
SP R OUT
IC202 HEADPHONE AMP
IC601
15.5V
MUTE Q201,202
IC251,261 AUDIO MAIN AMP
IC251
IC261
SP L OUT
SP R OUT
STANDBY
MUTE Q204-206,209
CN0102
Y IN
C IN
SSCP
VIDEO
IC402 MON/TV SW
TV V2 OUT
TV V OUT
CN0109
C3 IN
Y3 IN
L3 OUT
V3 OUT
V3 IN
Y OUT
C2 IN
R2 IN
L2 OUT
TV V2 OUT
V2 IN
TV L OUT
L1 IN
P.OFF
R3 IN
R3 OUT
MODE3
C OUT
Y2 IN
L2 IN
R2 OUT
MODE2
TV R OUT
R1 IN
MODE1
TV V OUT
V IN
CN5108
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
CN0105
A

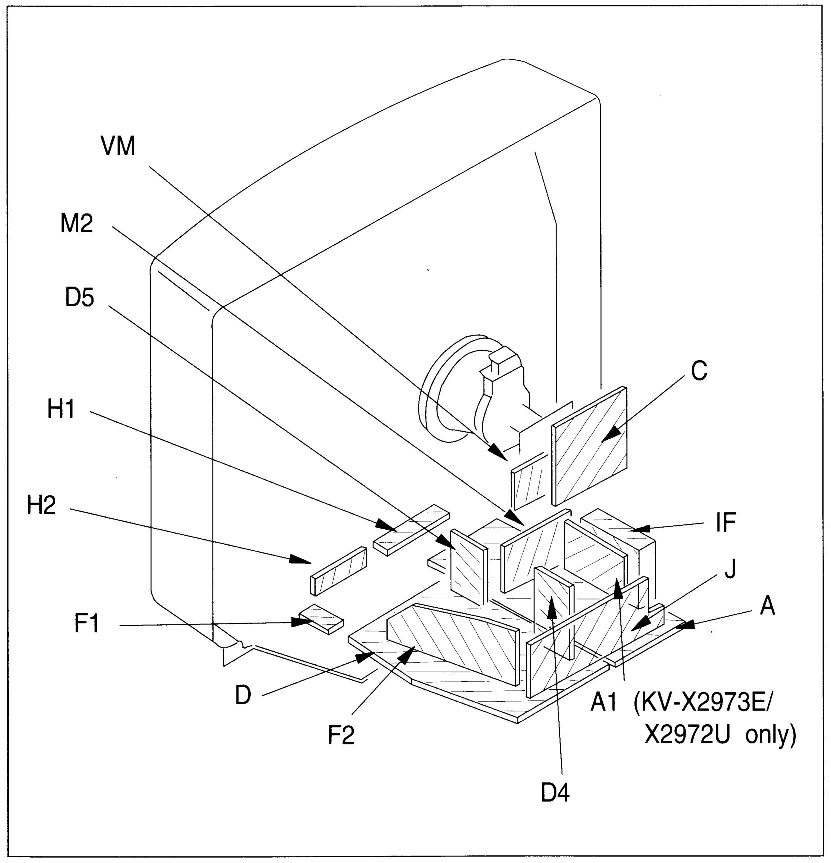

TU101
AGC
RF IN
IF
SCL
SDA
IFB101
AGC
BG/DK
VIDEO
TVID
AFT
H.PULSE
SIF
FM1
FM2
MONO
SCL
SDA
AGC MUTE
Q101
AUTO PRESET
Q103
AGC ATT
SCL/SDA
BG/DK
TV ID SW
Q102
AFT BUFFER
Q207
AFT RESET
Q203
TV ID SW
AFT
IC201
STEREO DECODER
SOUND CONTROL
OSC
MONO
HPL
HPR
LOUT
ROUT
SCL
SDA
PILOT
SPL
SPR
L IN
R IN
IC202
HEADPHONE AMP
L IN
R IN
L OUT
R OUT
IC251,261
AUDIO MAIN AMP
IC251
IN
OUT
SP L OUT
IC261
IN
MUTE
OUT
SP R OUT
MUTE
MUTE
Q201,202
MUTE
Q204-206,209
STANDBY
MUTE
IC601
15.5V
7.5V DET
Q610
7.5V
STANDY SWITCH
Q611
STANDBY
STANDBY SW
Q071
IC402
MON/TV SW
TV V2 OUT
TV V OUT
VIDEO
VIDEO
CN0110(1/2)
VAR R
VAR L
CN0108
HP R OUT
HP L OUT
CN0111
L OUT
R OUT
MUTE
CN0110(1/2)
SP R OUT
SP L OUT
B
CN0104
STANDBY
SW15.5
CN0101
SCL
SDA
SIF
LOUT
ROUT
LIN
RIN
CN0102
Y IN
C IN
SSCP
VIDEO
J
H
CN0109
C3 IN
R3 IN
Y3 IN
L3 OUT
L3 OUT
R3 OUT
V3 OUT
MODE3
V3 IN
C OUT
Y OUT
Y2 IN
C2 IN
L2 IN
R2 IN
R2 OUT
L2 OUT
MODE2
TV V2 OUT
TV R OUT
V2 IN
R1 IN
TV L OUT
MODE1
L1 IN
G
B
BLK
R
TV V OUT
P.OFF
V IN
CN5108
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
LC
A
P.OFF
CN0105
CN1008
(1/2)
IC401
AUDIO/VIDEO SWITCH
SCL
SDA
V
L
R
CHROMA
Y
MON2
SCART3
SCART2
V
Y
C
S3
S2
S1
SCART1
FRONT IN
MON1
C BUFFER
Q401
Y BUFFER
Q402
VIDEO BUFFER
Q404
VIDEO BUFFER
Q403
PAL/NTSC
SECAM
IC301
Y/C PROCESSOR
SCL
SDA
C IN
Y IN
SSCP
VIDEO
B-Y
R-Y
STD
2FSC
Y OUT
IC302
CHROMA OUT
SSCP
B-Y OUT
R-Y OUT
B-Y
R-Y
PAL/NT SW
Q301
2 FSC AMP
Q302
SYNC SEP
Q581,582
R.G.B
SSCP
SCL
SDA
R1 IN
G1 IN
B1 IN
FS1
R
G
B
YM
FS2
H S/S
VLC
FH
V S/S
V OFF
FBP
YTIM
V IN
H IN
XRAY
HD
ABL IN
IK IN
V. BLK
FS1 INVERT
Q308
G
CN0113
SCL
SDA
AGC ATT
BGIDK
TV ID SW
AFT
SYNC IN
SSCP
LC
MUTE
STAND BY
SDA
SCL
R
G
B
COR
TEXT BLK
H SYNC
VLC
FH
V S/S
V OFF
MONO
H.PULSE
V.PULSE
IK
ABL
IC072
NVM
SDA
SCL
IC603
+9V REG
SW15.5V
REG
+9V
IC604
+9V REG
REG
+9V
IK DET
Q306
IK SWITCH
Q311,312
CN0137
BLK
YM
R
G
B
X RAY
H.DRIVE
H.PUSE
ABL
CN0106
K
A


IC401
AUDIO/VIDEO SWITCH
SCL
SDA
CHROMA
C BUFFER Q401
Y BUFFER Q402
MON2
SCART3
SCART2
VIDEO BUFFER Q404
SCART1
FRONT IN
MONT
VIDEO BUFFER Q403
SECAM
IC301
Y/C PROCESSOR
C IN
Y IN
SSCP
VIDEO
B-Y
R-Y
STD
2FSC
Y OUT
PAL/NT SW Q301
2 FSC AMP Q302
SYNC SEP Q501,502
IC302
CHROMA OUT
B-Y OUT
R-Y OUT
CN0115(1/2)
SSCP
V.PULSE
CN0102
PAL/NT
2FSC
CN0116
V3
CN0103
IC304
R.G.B JUNGLE
R1 IN
G1 IN
B1 IN
FS1
YM
FS2
H S/S
VLC
FH
V S/S
V OFF
FBP
YTIM
V IN
H IN
XRAY
HD
ABL IN
IK IN
V.BLK
R OUT
G OUT
B OUT
OUT PUT PROTECT Q303,304
B-Y IN
R-Y IN
Y IN
Y BUFFER Q313
VM OUT
VM AMP Q309
VM MUTE
CN0119
HVCO
CF581
G
CN0113
AGC ATT
BGIDK
TV ID SW
AFT
SYNC IN
LC
MUTE
STAND BY
TEXT BLK
H SYNC
COR
MONO
H.PULSE
IC072
NVM
IK DET Q306
IK SWITCH Q311,312
IK
ABL
CN0114
PIP RESET
CN0137
BLK
CN0106
X RAY
H. DRIVE
H. PUSE
K
I
A (A/V PROCESSOR,Y/C JUNGLE R.G.B OUTPUT,A/V SWITCH)


CN0403
R
G
B
IK
R.G.B AMP Q710-712
R.G.B OUT Q706,703,705,702,704,701
R.G.B OUT
V901 PICTURE TUBE
+12V
IK BUFFER Q713
R.G.B IK DET Q709,708,707
IK DET Q714
FV
TO FV
CN0421
H1
H2
C
C (R.G.B OUT)


CN1030
QP-
QP+
QP
QP
VM
NECK ASSY
+12V
DRIVE SWITCH Q1709
CN1019
VM IN
AMP1-4 Q1701,1702,1704,1706
BUFF Q1707
DRIVE Q1703,1705
VM MUTE
VM MUTE SW Q1708
VM (VM AMP)

5-2. CIRCUIT BOARDS LOCATION


VM
M2
D5
H1
H2
F1
D
F2
C
IF
J
A
A1 (KV-X2973E/
X2972U only)
D4

Reference information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

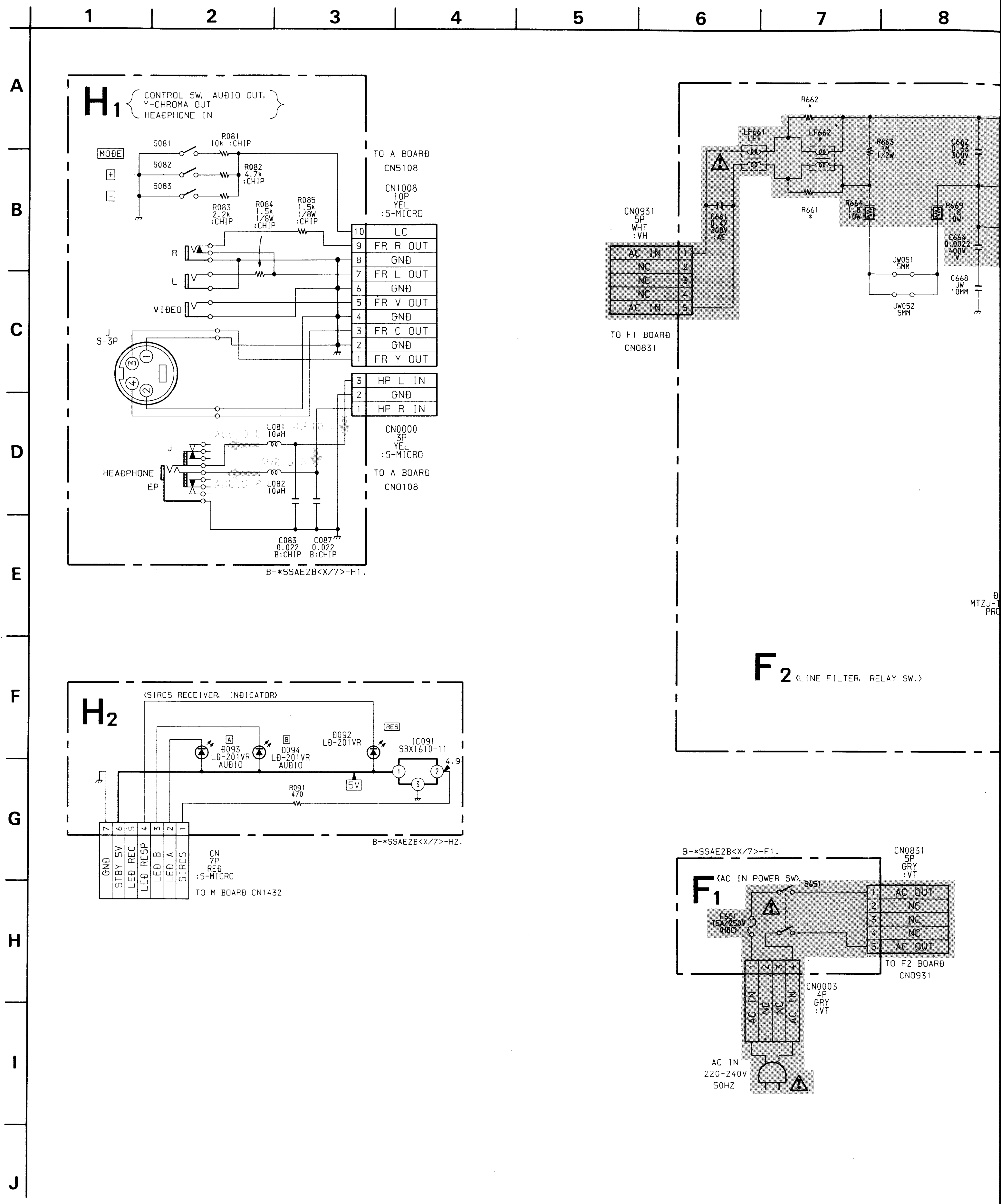
5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

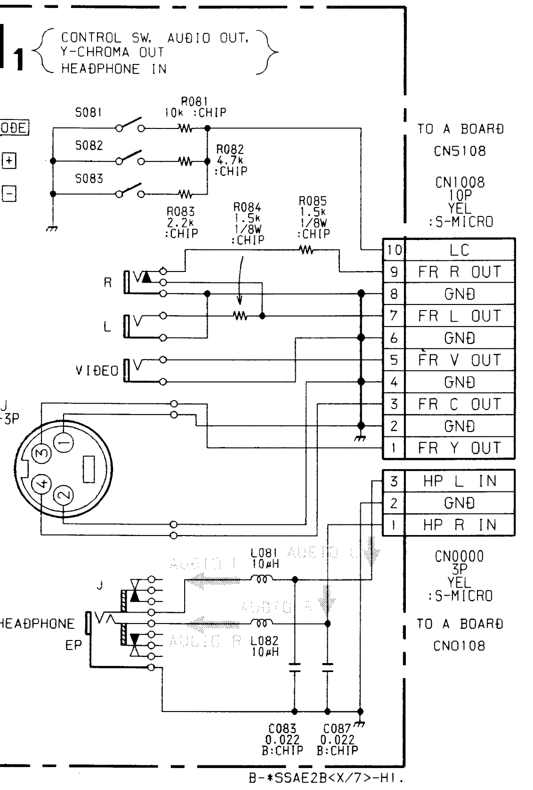
Note :

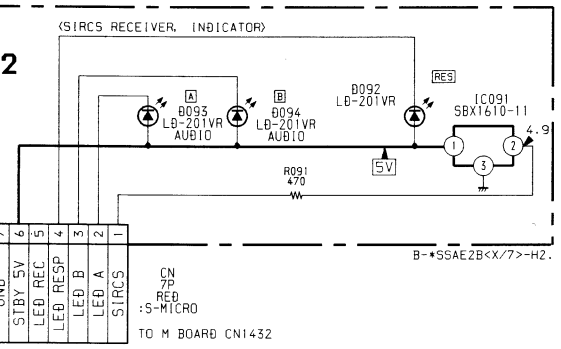
- All capacitors are in μF unless otherwise noted.
  pF : μμF 50WV or less are not indicated except for electrolytic.
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

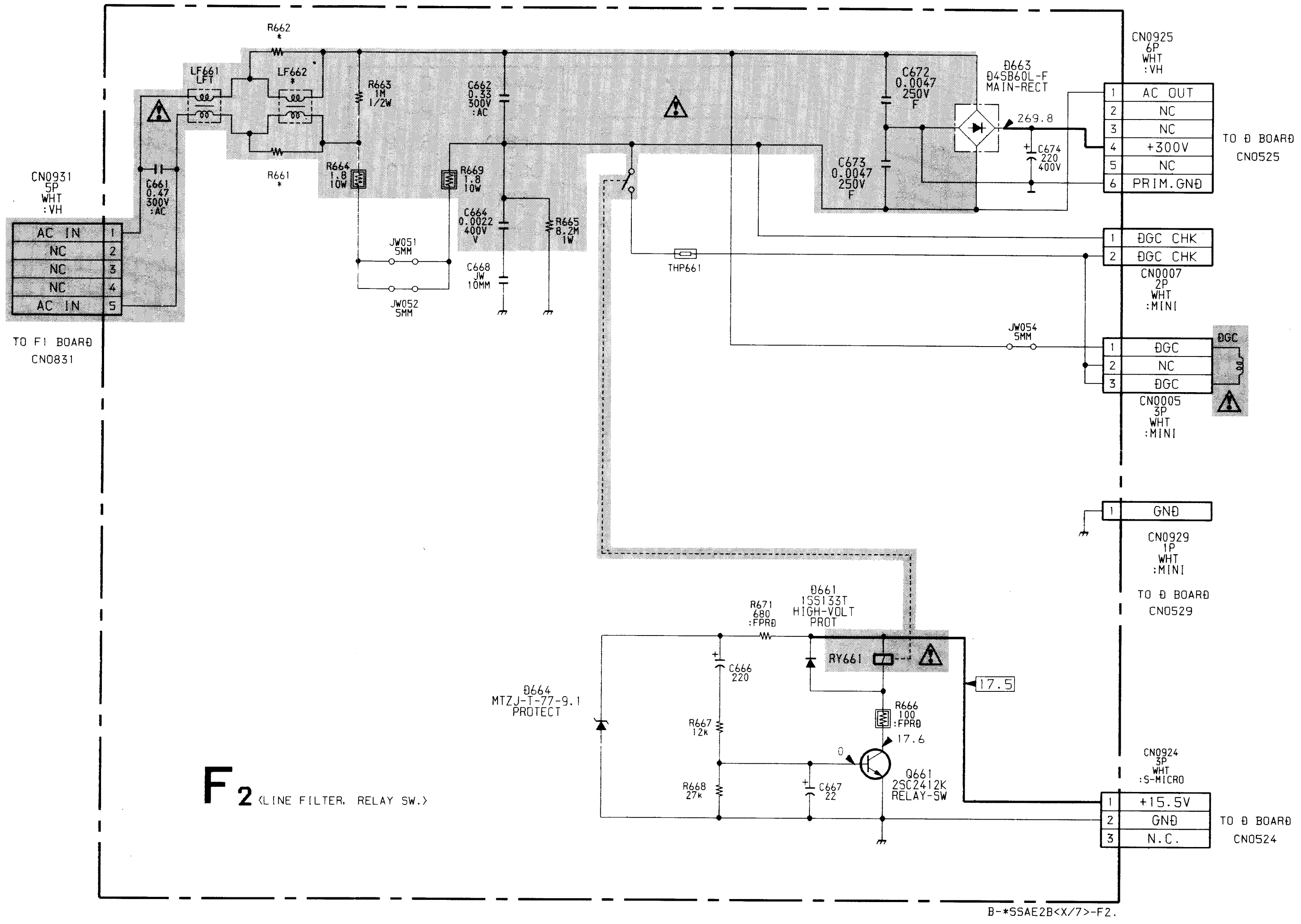
Pitch : 5mm Rating electrical power : ¼W

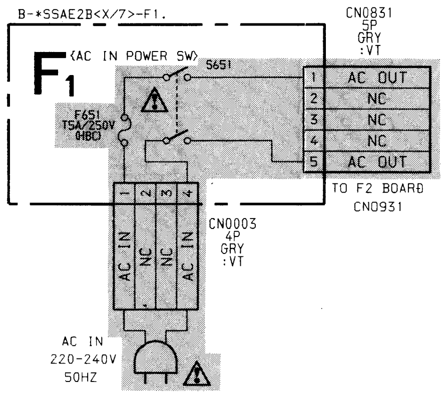
- Chip resistor is in 1/10W.
- All resistors are in ohms.
  kΩ = 1000Ω, MΩ = 1000KΩ
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- Δ : internal component.
- ☐ : panel designation or adjustment for repair.
- All variable and adjustable resistors have charactristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ▬ : B + bus.
- ▬ ▬ : B − bus.
- ⇨ : signal path.(RF)
- ⊥ : earth - ground
- ⊥ : earth - chassis


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
H1
CONTROL SW, AUDIO OUT, Y-CHROMA OUT HEADPHONE IN
MODE
+
−
S081
S082
S083
R081 10k :CHIP
R082 4.7k :CHIP
R083 2.2k :CHIP
R084 1.5k 1/8W :CHIP
R085 1.5k 1/8W :CHIP
TO A BOARD CN5108
CN1008 10P YEL :S-MICRO
LC
FR R OUT
GND
FR L OUT
GND
FR V OUT
GND
FR C OUT
GND
FR Y OUT
HP L IN
GND
HP R IN
CN0000 3P YEL :S-MICRO
TO A BOARD CN0108
R
L
VIDEO
J S-3P
J
HEADPHONE
EP
L081 10μH
L082 10μH
C083 0.022 B:CHIP
C087 0.022 B:CHIP
B-*SSAE2B<X/7>-H1.
H2
(SIRCS RECEIVER, INDICATOR)
D093 LD-201VR AUDIO
D094 LD-201VR AUDIO
D092 LD-201VR
IC091 SBX1610-11
RES
R091 470
5V
4.9
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
CN 7P RED :S-MICRO
TO M BOARD CN1432
B-*SSAE2B<X/7>-H2.
CN0931 5P WHT :VH
AC IN
NC
NC
NC
AC IN
TO F1 BOARD CN0831
R662
LF661 LFT
LF662
R663 1M 1/2W
C662 0.33 300V :AC
C661 0.47 300V :AC
R661
R664 1.8 10W
R669 1.8 10W
C664 0.0022 400V
JW051 5MM
JW052 5MM
C668 JW 10MM
F2 (LINE FILTER, RELAY SW.)
MTZJ-
B-*SSAE2B<X/7>-F1.
F1 (AC IN POWER SW)
S651
F651 T5A/250V (HBC)
CN0831 5P GRY :VT
AC OUT
NC
NC
NC
AC OUT
TO F2 BOARD CN0931
CN0003 4P GRY :VT
AC IN
NC
NC
AC IN
AC IN 220-240V 50HZ


H1 (CONTROL SW, AUDIO OUT, Y-CHROMA OUT, HEADPHONE IN)
S081
S082
S083
R081 10k :CHIP
R082 4.7k :CHIP
R083 2.2k :CHIP
R084 1.5k 1/8W :CHIP
R085 1.5k 1/8W :CHIP
TO A BOARD CN5108
CN1008 10P YEL :S-MICRO
LC
FR R OUT
GND
FR L OUT
GND
FR V OUT
GND
FR C OUT
GND
FR Y OUT
R
L
VIDEO
HP L IN
GND
HP R IN
CN0000 3P YEL :S-MICRO
TO A BOARD CN0108
L081 10μH
L082 10μH
HEADPHONE
C083 0.022 B:CHIP
C087 0.022 B:CHIP
B-*SSAE2B<X/7>-H1.


2
(SIRCS RECEIVER, INDICATOR)
D093 LD-201VR AUDIO
D094 LD-201VR AUDIO
D092 LD-201VR
RES
IC091 SBX1610-11
4.9
5V
R091 470
B-*SSAE2B<X/7>-H2.
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
CN 7P RED :S-MICRO
TO M BOARD CN1432


R662
LF661 LFT
LF662
R663 1M 1/2W
C662 0.33 300V :AC
C672 0.0047 250V F
D663 D4SB60L-F MAIN-RECT
269.8
C674 220 400V
C673 0.0047 250V F
C661 0.47 300V :AC
R661
R664 1.8 10W
R669 1.8 10W
C664 0.0022 400V
R665 8.2M 1W
JW051 5MM
JW052 5MM
C668 JW 10MM
THP661
CN0931 5P WHT :VH
AC IN
NC
NC
NC
AC IN
TO F1 BOARD CN0831
CN0925 6P WHT :VH
AC OUT
NC
NC
+300V
NC
PRIM.GND
TO D BOARD CN0525
DGC CHK
DGC CHK
CN0007 2P WHT :MINI
JW054 5MM
DGC
NC
DGC
CN0005 3P WHT :MINI
GND
CN0929 1P WHT :MINI
TO D BOARD CN0529
R671 680 :FPRD
D661 1SS133T HIGH-VOLT PROT
RY661
17.5
C666 220
D664 MTZJ-T-77-9.1 PROTECT
R666 100 :FPRD
17.6
R667 12k
R668 27k
C667 22
Q661 2SC2412K RELAY-SW
CN0924 3P WHT :S-MICRO
+15.5V
GND
N.C.
TO D BOARD CN0524
F2 (LINE FILTER, RELAY SW.)
B-*SSAE2B<X/7>-F2.

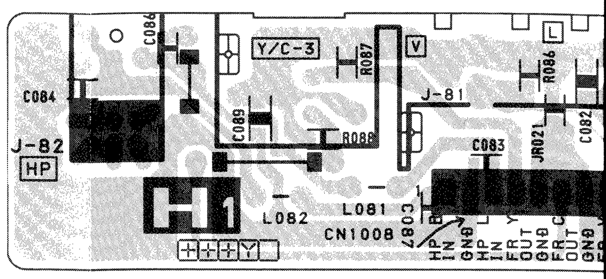

B-*SSAE2B<X/7>-F1.
F1 (AC IN POWER SW)
S651
F651 T5A/250V (HBC)
CN0831 5P GRY :VT
AC OUT
NC
NC
NC
AC OUT
TO F2 BOARD CN0931
AC IN
NC
NC
AC IN
CN0003 4P GRY :VT
AC IN 220-240V 50HZ

F2 BOARD * MARK

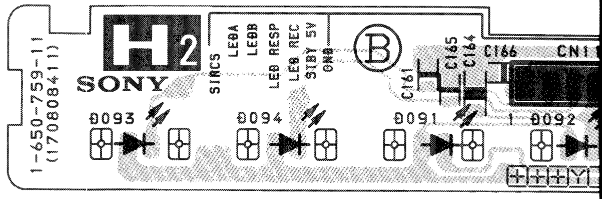
Model	KV-X2971A	KV-X2971B	KV-X2971D	KV-X2971K	KV-X2973E	KV-X2972U
R661	-	JW 10MM	-	-	JW 10MM	JW 10MM
R662	-	JW 10MM	-	-	JW 10MM	JW 10MM
LF662	LFT	-	LFT	LFT	-	-

H1 [CONTROL SW, AUDIO OUT Y - CHROMA OUT, HEADPHONE]

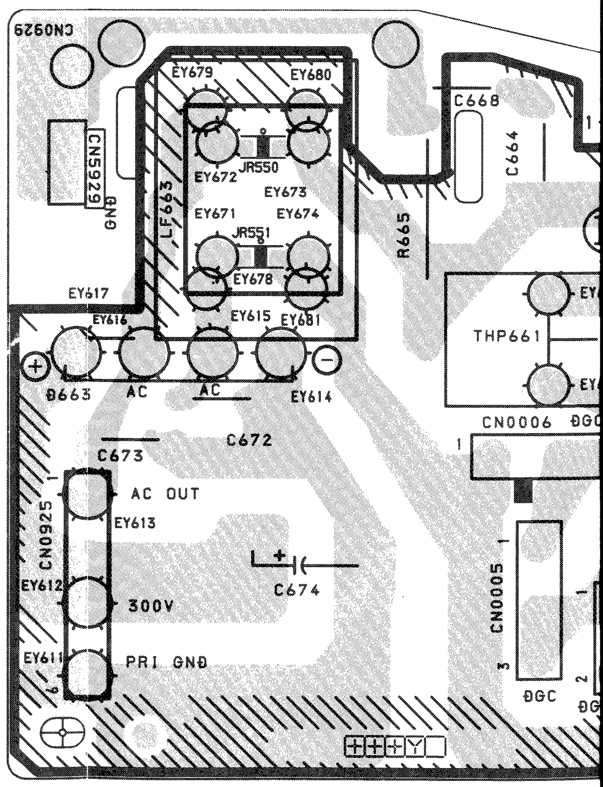
- H1 BOARD -

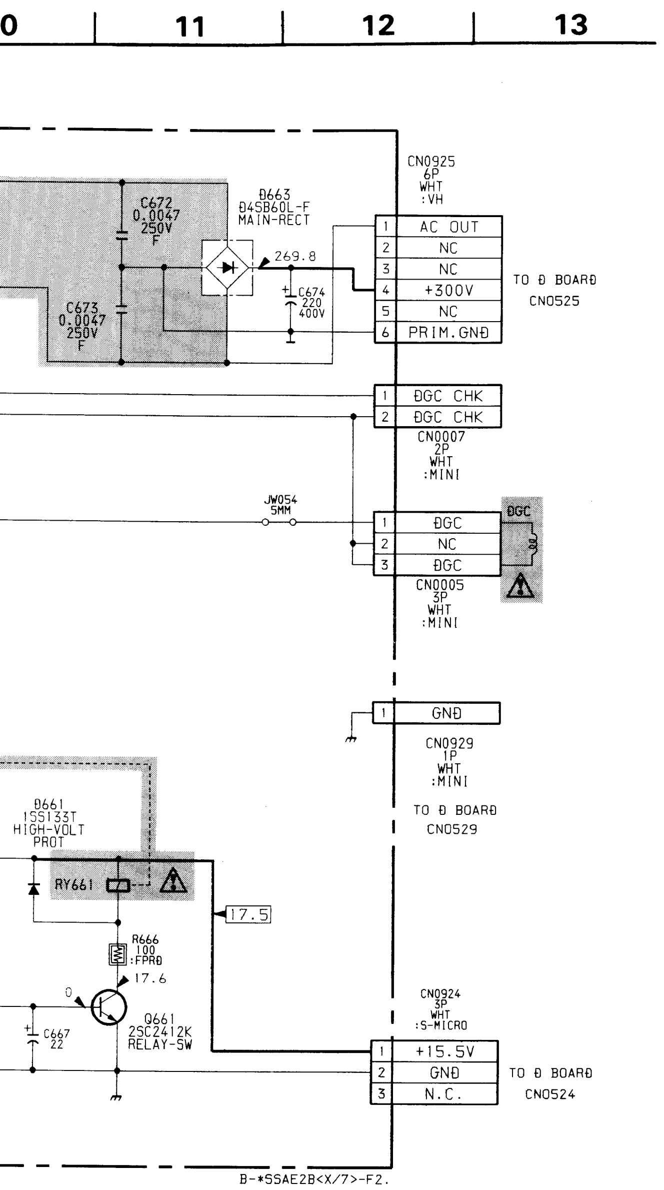

C086
Y/C-3
R087
C084
J-81
J-82
HP
C089
R088
C083
JR021
C082
H1
L082
L081
CN1008

- H2 BOARD -


H2
SONY
1-650-759-11 (17080841)
SIRCS
LEDA
LEDB
LED RESP
LED REC
STBY 5V
GND
D093
D094
D091
C161
C165
C164
C166
CN1

- F2 BOARD -

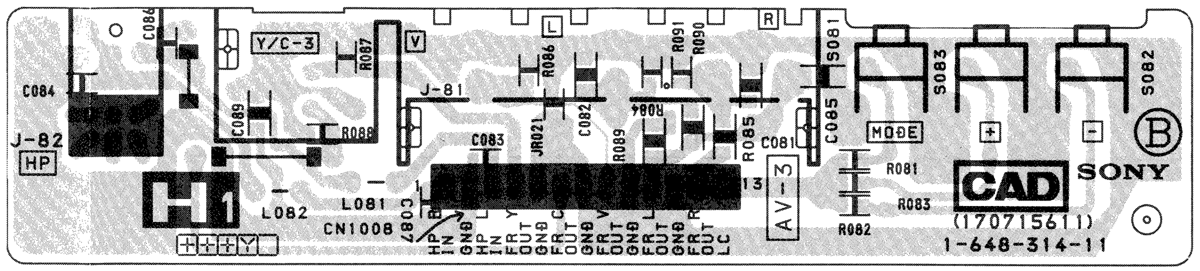

CN0929
EY679
EY680
C668
CN5929
LF663
EY672
JR550
EY673
EY671
JR551
EY674
EY678
C664
R665
EY617
EY616
EY615
EY681
THP661
D663
AC
AC
EY614
CN0006
C673
C672
AC OUT
EY613
CN0925
EY612
300V
C674
CN0005
EY611
PRI GND
DGC


0
11
12
13
C672 0.0047 250V F
D663 D4SB60L-F MAIN-RECT
269.8
C673 0.0047 250V F
C674 220 400V
CN0925 6P WHT :VH
1 AC OUT
2 NC
3 NC
4 +300V
5 NC
6 PRIM.GND
TO D BOARD CN0525
1 DGC CHK
2 DGC CHK
CN0007 2P WHT :MINI
JW054 5MM
1 DGC
2 NC
3 DGC
DGC
CN0005 3P WHT :MINI
1 GND
CN0929 1P WHT :MINI
TO D BOARD CN0529
D661 1SS133T HIGH-VOLT PROT
RY661
17.5
R666 100 :FPRD
17.6
0
Q661 2SC2412K RELAY-SW
C667 22
CN0924 3P WHT :S-MICRO
1 +15.5V
2 GND
3 N.C.
TO D BOARD CN0524
B-*SSAE2B<X/7>-F2.

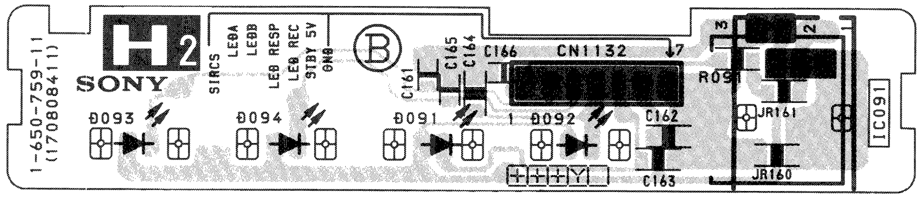
	KV-X2971B	KV-X2971D	KV-X2971K	KV-X2973E	KV-X2972U
	JW 10MM	-	-	JW 10MM	JW 10MM
	JW 10MM	-	-	JW 10MM	JW 10MM
	-	LFT	LFT	-	-

H1 [CONTROL SW, AUDIO OUT Y - CHROMA OUT, HEADPHONE] **H2** [SIRCS RECEIVE INDICATOR] **F2** [LINE FILTER, RELAY SW] **F1** [AC IN POWER SW]

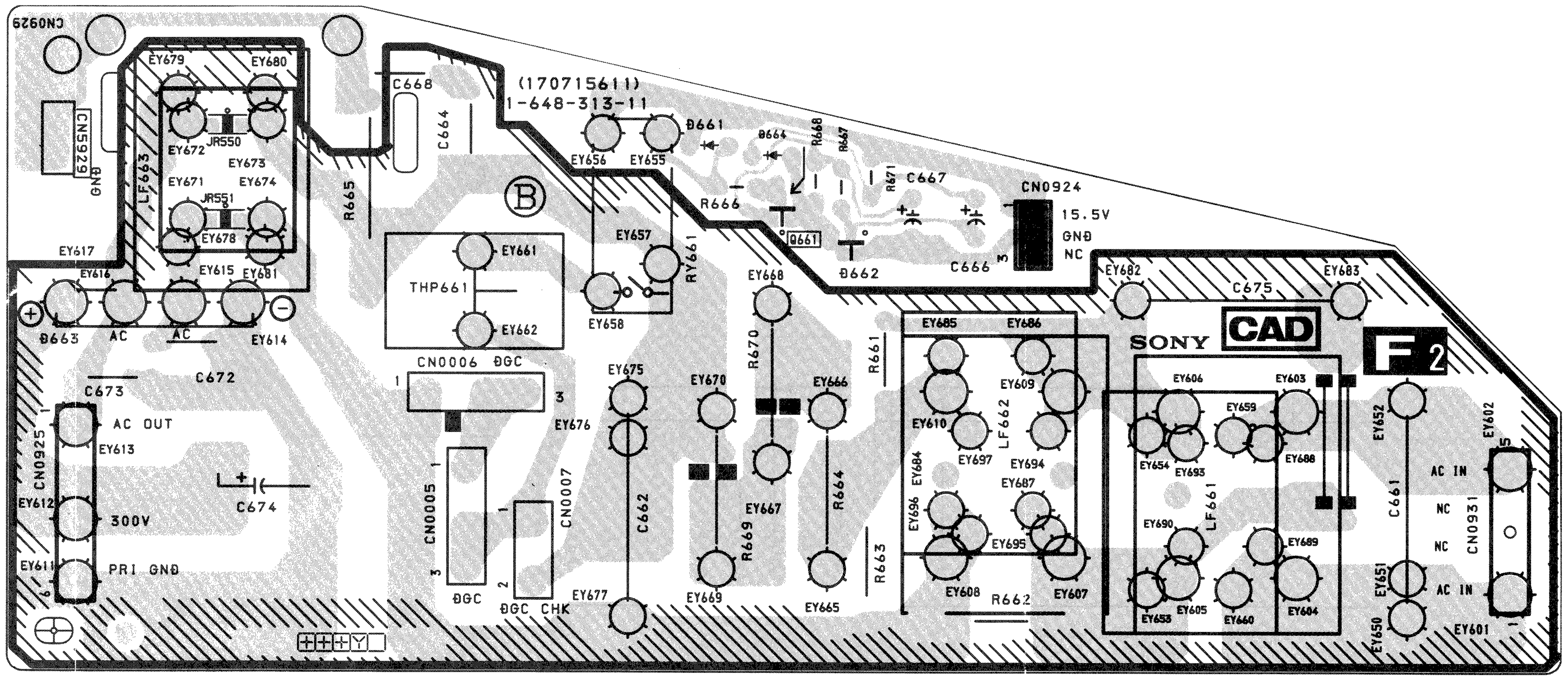
- H1 BOARD -


H1
C086
Y/C-3
V
L
R
R087
C084
J-81
J-82
HP
C089
R088
C083
JR021
R086
C082
R089
R084
R091
R090
R085
C081
C085
S081
S083
S082
MODE
+
-
R081
R083
R082
AV-3
CAD
SONY
(170715611)
1-648-314-11
L081
L082
CN1008
C087
13
HP IN
GND
HP L
IN
FR Y
OUT
GND
FR C
OUT
GND
FR V
OUT
GND
FR R
OUT
GND
FR L
OUT
LC

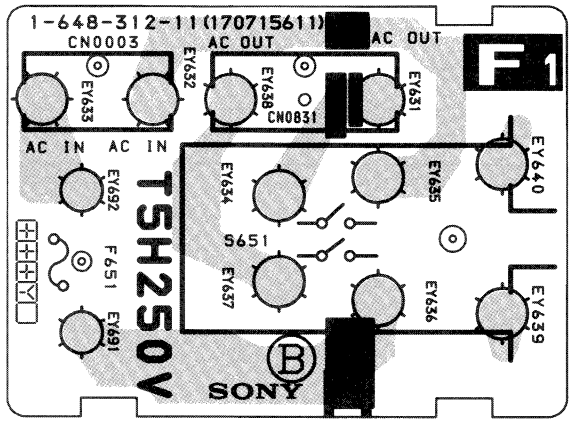
- H2 BOARD -


H2
SONY
1-650-759-11 (170808411)
SIRCS
LED A
LED B
LED RESP
LED REC
STBY 5V
GND
C161
C165
C164
C166
CN1132
7
R091
3
2
D093
D094
D091
D092
C162
C163
JR161
JR160
IC091

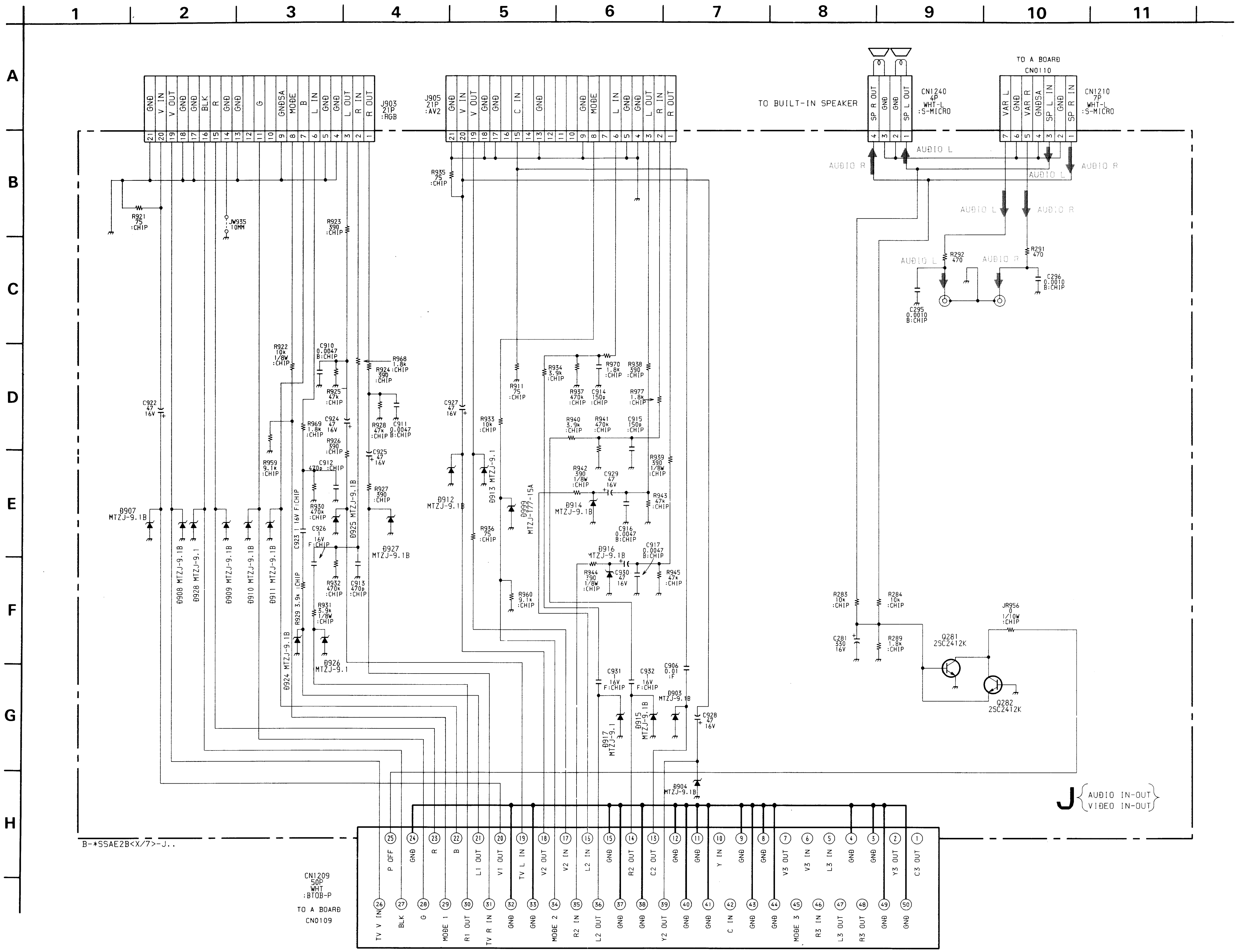
- F2 BOARD -


CN0929
CN5929
GND
EY679
EY680
EY672
JR550
EY673
EY671
EY674
JR551
EY678
LF663
EY617
EY616
EY615
EY681
D663
AC
AC
EY614
C668
C664
R665
(170715611)
1-648-313-11
EY656
EY655
D661
D664
R668
R667
R671
C667
R666
Q661
EY657
RY661
D662
C666
CN0924
15.5V
GND
NC
EY661
THP661
EY662
EY658
EY668
R670
EY682
C675
EY683
SONY
CAD
F2
R661
EY685
EY686
EY609
EY610
LF662
EY697
EY694
EY687
EY696
EY684
EY695
EY608
R662
EY607
EY606
EY603
EY659
EY654
EY693
EY688
LF661
EY690
EY689
EY653
EY605
EY660
EY604
EY652
EY602
C661
AC IN
NC
NC
AC IN
CN0931
5
1
EY651
EY650
EY601
C673
C672
AC OUT
EY613
CN0925
EY612
300V
C674
EY611
PRI GND
6
CN0006 DGC
1
3
EY676
CN0005
CN0007
DGC
DGC CHK
2
EY677
C662
EY675
EY670
EY666
EY667
R669
R664
EY669
EY665
R663

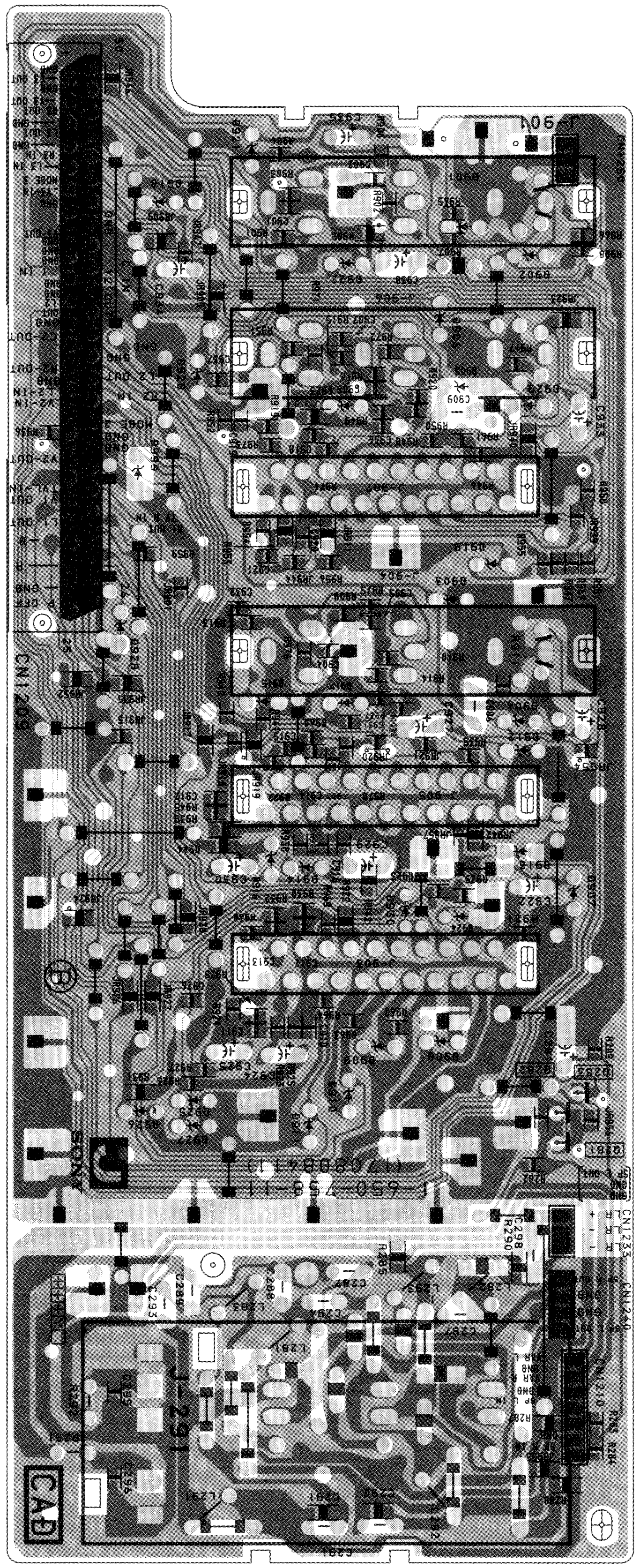
- F1 BOARD -


1-648-312-11(170715611)
CN0003
AC OUT
AC OUT
EY633
EY632
EY638
CN0831
EY631
F1
AC IN
AC IN
EY692
EY634
EY635
EY640
T5H250V
F651
S651
EY691
EY637
EY636
EY639
SONY

J [AUDIO IN/OUT
VIDEO IN/OUT] **A** [TUNER, AUDIO, CONTROL, AUDI
AV SW, R.G.B JUNGLE, Y/C P

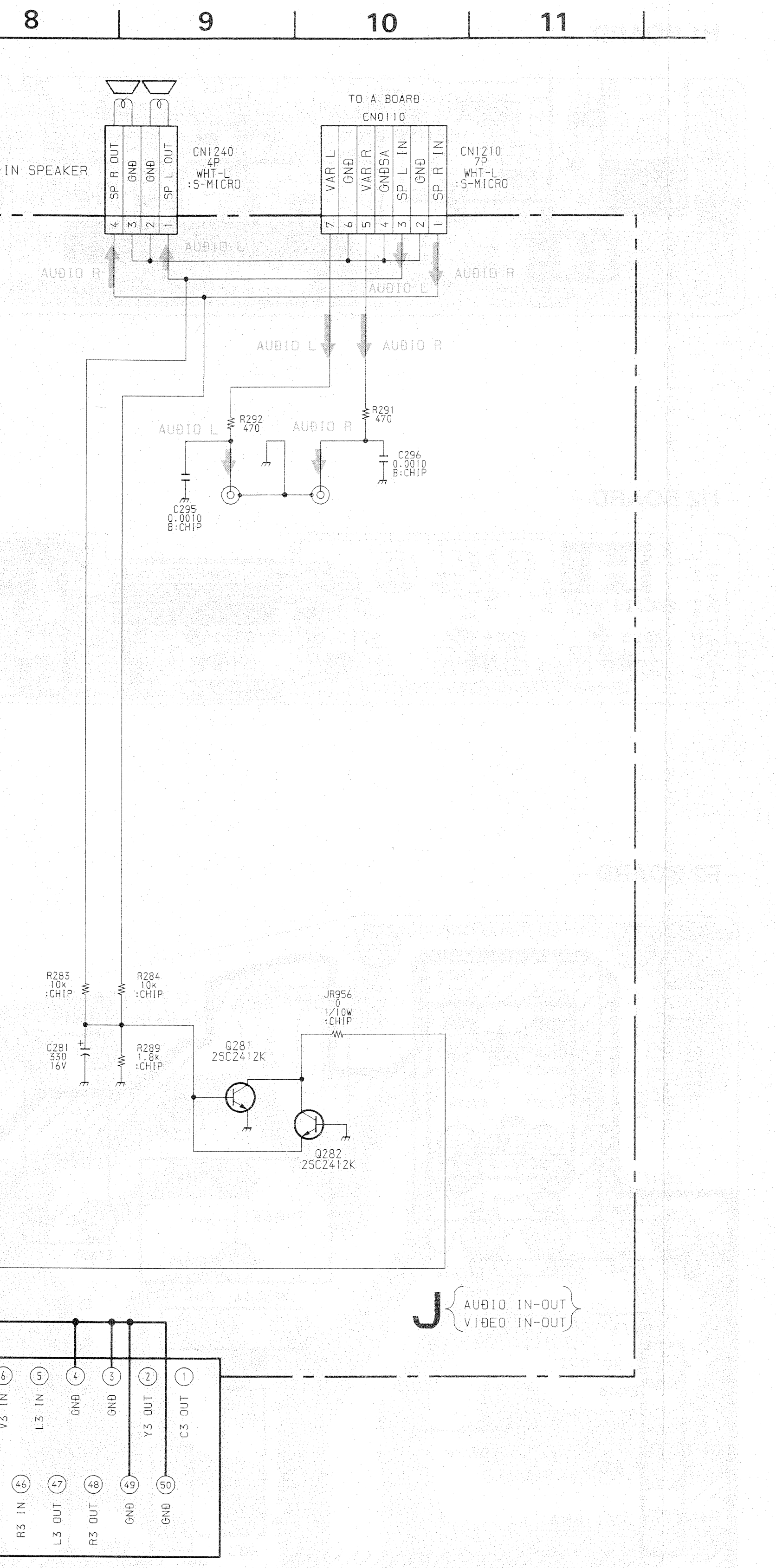

1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
J903 21P :RGB
J905 21P :AV2
TO BUILT-IN SPEAKER
CN1240 4P WHT-L :S-MICRO
TO A BOARD CN0110
CN1210 7P WHT-L :S-MICRO
SP R OUT
SP L OUT
VAR L
VAR R
GND5A
SP L IN
SP R IN
AUDIO L
AUDIO R
GND
V IN
V OUT
BLK
R
G
GND5A
MODE
B
L IN
L OUT
R IN
R OUT
C IN
R921 75 :CHIP
JW935 10MM
R923 390 :CHIP
R935 75 :CHIP
R292 470
R291 470
C295 0.0010 B:CHIP
C296 0.0010 B:CHIP
R922 10k 1/8W :CHIP
C910 0.0047 B:CHIP
R968 1.8k
R924 390 :CHIP
R925 47k :CHIP
C922 47 16V
C927 47 16V
R911 75 :CHIP
R934 3.9k :CHIP
R970 1.8k :CHIP
R938 390 :CHIP
R937 470k :CHIP
C914 150p :CHIP
R977 1.8k :CHIP
R969 1.8k :CHIP
C924 47 16V
R926 390 :CHIP
R928 47k :CHIP
C911 0.0047 B:CHIP
R933 10k :CHIP
R940 3.9k :CHIP
R941 470k :CHIP
C915 150p :CHIP
C925 47 16V
R959 9.1k :CHIP
C912 470p :CHIP
R927 390 :CHIP
R942 390 1/8W :CHIP
C929 47 16V
R939 390 1/8W :CHIP
R943 47k :CHIP
D907 MTZJ-9.1B
D908 MTZJ-9.1B
D928 MTZJ-9.1
D909 MTZJ-9.1B
D910 MTZJ-9.1B
D911 MTZJ-9.1B
R930 470k :CHIP
C923 1 16V F:CHIP
D925 MTZJ-9.1B
D927 MTZJ-9.1B
D912 MTZJ-9.1B
D913 MTZJ-9.1
D999 MTZJ-T77-15A
D914 MTZJ-9.1B
C916 0.0047 B:CHIP
C926 1 16V F:CHIP
R936 75 :CHIP
D916 MTZJ-9.1B
C917 0.0047 B:CHIP
R944 390 1/8W :CHIP
C930 47 16V
R945 47k :CHIP
R932 470k :CHIP
C913 470p :CHIP
R929 3.9k :CHIP
R931 3.9k 1/8W :CHIP
R960 9.1k :CHIP
R283 10k :CHIP
R284 10k :CHIP
JR956 0 1/10W :CHIP
C281 330 16V
R289 1.8k :CHIP
Q281 2SC2412K
Q282 2SC2412K
D924 MTZJ-9.1B
D926 MTZJ-9.1
C931 1 16V F:CHIP
C932 1 16V F:CHIP
C906 0.01 F
D903 MTZJ-9.1B
D917 MTZJ-9.1
D915 MTZJ-9.1B
C928 47 16V
D904 MTZJ-9.1B
J {AUDIO IN-OUT VIDEO IN-OUT}
B-*SSAE2B<X/7>-J..
CN1209 50P WHT :BTOB-P
TO A BOARD CN0109
P OFF
L1 OUT
V1 OUT
TV L IN
V2 OUT
V2 IN
L2 IN
R2 OUT
C2 OUT
Y IN
V3 OUT
V3 IN
L3 IN
Y3 OUT
C3 OUT
TV V IN
MODE 1
R1 OUT
TV R IN
MODE 2
R2 IN
L2 OUT
Y2 OUT
MODE 3
R3 IN
L3 OUT
R3 OUT

- J BOARD -


CN1209
CN1233
CN1240
CN1210
J-291
CA-D

Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

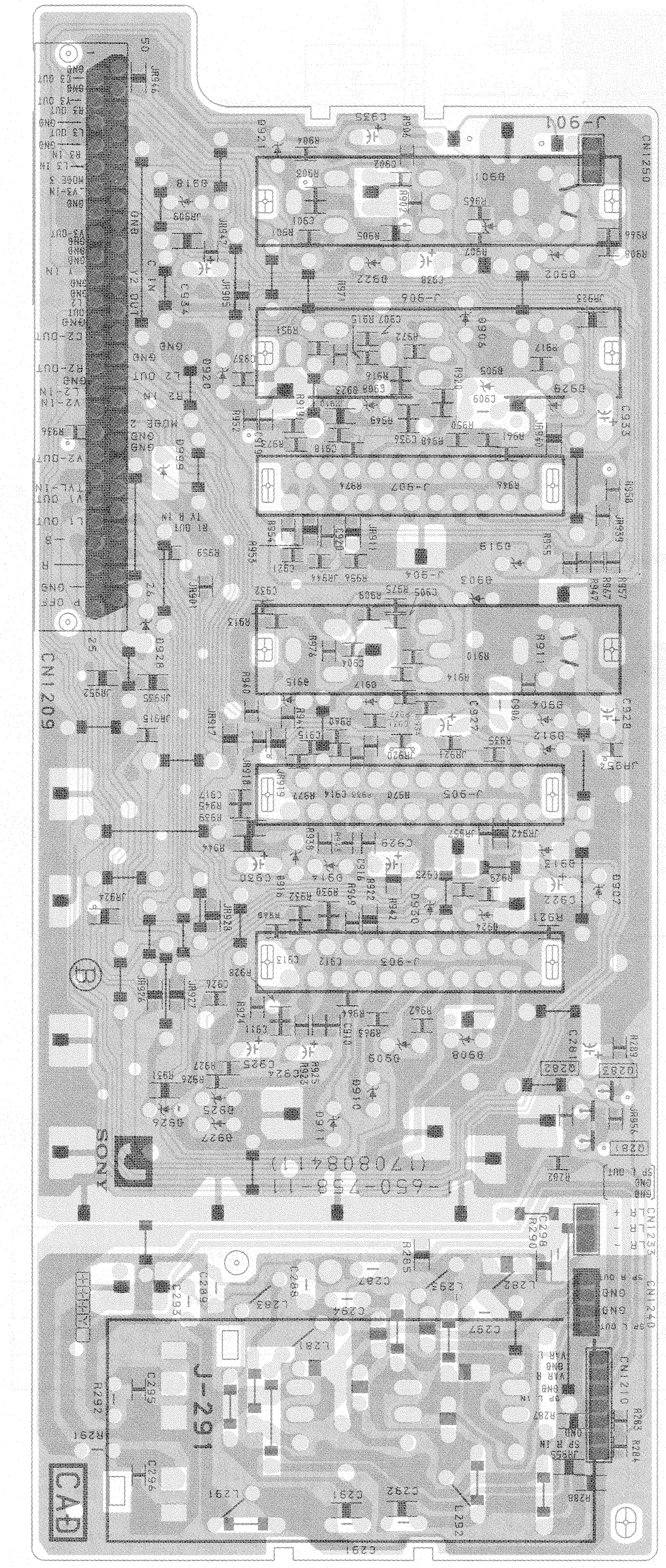

8
9
10
11
IN SPEAKER
CN1240 4P WHT-L :S-MICRO
TO A BOARD CN0110
CN1210 7P WHT-L :S-MICRO
SP R OUT
GND
GND
SP L OUT
VAR L
GND
VAR R
GNDSA
SP L IN
GND
SP R IN
AUDIO L
AUDIO R
R292 470
R291 470
C295 0.001 B:CHIP
C296 0.001 B:CHIP
R283 10k :CHIP
R284 10k :CHIP
C281 330 16V
R289 1.8k :CHIP
JR956 0 1/10W :CHIP
Q281 2SC2412K
Q282 2SC2412K
J AUDIO IN-OUT VIDEO IN-OUT
L3 IN
GND
GND
Y3 OUT
C3 OUT
R3 IN
L3 OUT
R3 OUT
GND
GND

Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

J [AUDIO IN/OUT VIDEO IN/OUT] A [TUNER, AUDIO, CONTROL, AUDIO AMP, AV SW, R.G.B JUNGLE, Y/C PROCESSOR]

– J BOARD –

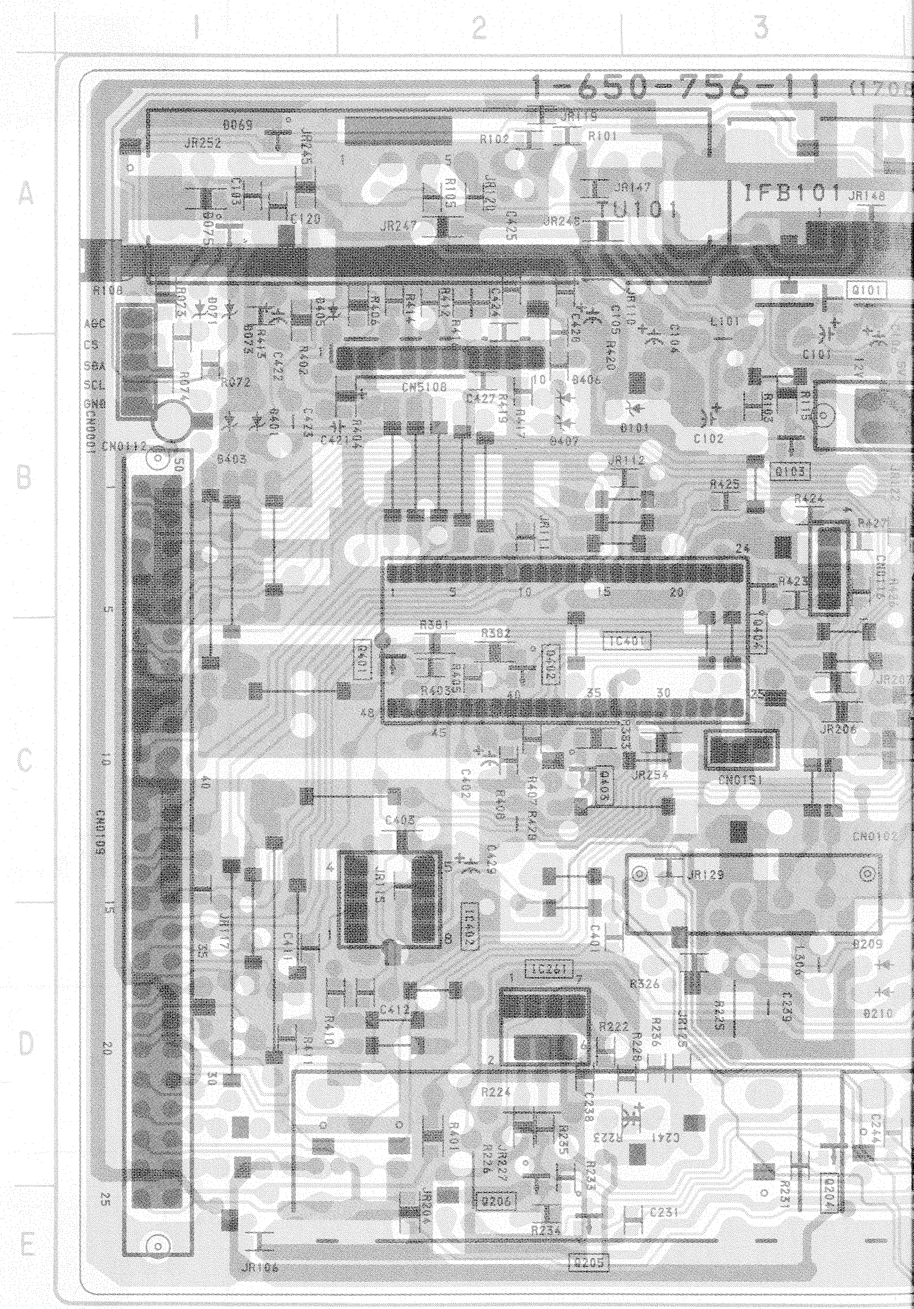

CN1209
CN1250
CN1233
CN1240
CN1210
J-901
J-904
J-907
J-906
J-905
J-903
J-291
1-650-758-11 (1708084 11)
SONY
CAD

IC	
IC072	B – 6
IC201	C – 6
IC202	C – 4
IC251	D – 4
IC261	D – 2
IC301	A – 8
IC302	A – 10
IC304	C – 10
IC401	C – 2
IC402	D – 2
IC681	D – 9
IC684	C – 4
IC685	E – 8

TRANSISTOR	
Q071	D – 8
Q101	A – 3
Q102	A – 7
Q103	A – 3
Q201	D – 5
Q202	D – 5
Q203	A – 4
Q204	D – 3
Q205	E – 2
Q206	D – 2
Q207	B – 6
Q209	E – 7
Q210	A – 6
Q301	A – 7
Q302	B – 7
Q303	D – 10
Q304	D – 10
Q305	A – 8
Q306	D – 10
Q308	C – 9
Q309	C – 9
Q311	C – 8
Q312	C – 8
Q313	B – 8
Q314	C – 7
Q315	D – 7
Q401	C – 2
Q402	C – 2
Q403	C – 2
Q404	B – 3
Q581	B – 9
Q582	B – 9
Q610	E – 9
Q681	E – 7
Q682	D – 9

DIODE	
D068	B – 7
D069	A – 1
D071	A – 1
D073	A – 1
D075	A – 1
D077	B – 7
D078	B – 7
D079	B – 7
D101	B – 2
D206	D – 7
D207	E – 7
D208	D – 7
D209	D – 3
D210	D – 3
D211	E – 5
D212	E – 4
D213	D – 5
D214	C – 6
D301	B – 9
D302	A – 9
D304	B – 10
D305	C – 9
D306	D – 10
D307	D – 10
D308	D – 10
D311	C – 9
D312	C – 8
D313	C – 7
D381	C – 8
D401	B – 1
D403	B – 1
D405	A – 1
D406	B – 2
D407	B – 2
D571	B – 9
D681	E – 8
D683	D – 9

– A BOARD –

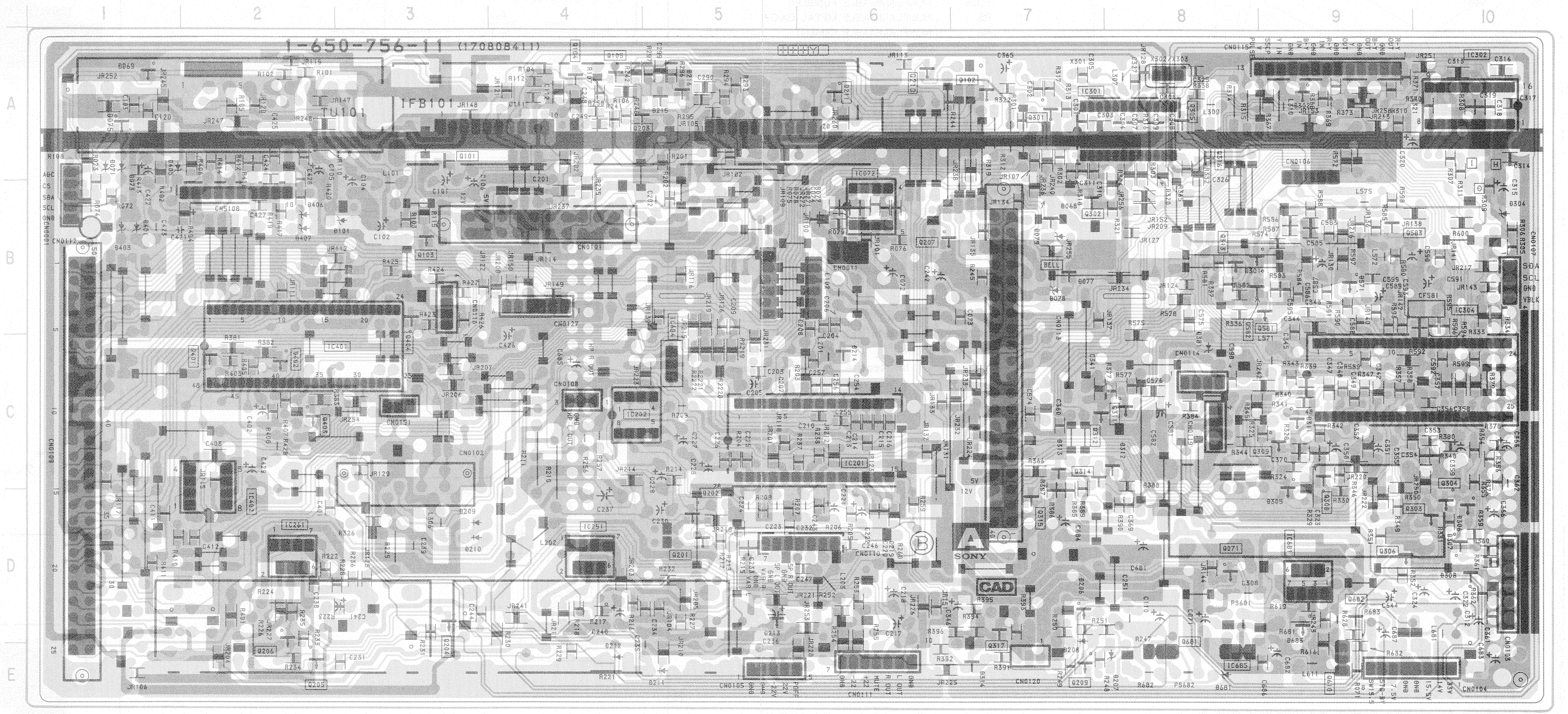

1
2
3
A
B
C
D
E
1-650-756-11 (1708
IFB101
TU101
CN0112
CN0109
CN0151
CN0102
CN5108
IC401
IC402
IC261
IC202
AGC
CS
SDA
SCL
GND
CNO001

04	B – 3
31	B – 9
32	B – 9
0	E – 9
31	E – 7
32	D – 9

DIODE

68	B – 7
69	A – 1
71	A – 1
73	A – 1
75	A – 1
77	B – 7
78	B – 7
79	B – 7
1	B – 2
6	D – 7
7	E – 7
8	D – 7
9	D – 3
0	D – 3
1	E – 5
2	E – 4
3	D – 5
4	C – 6
1	B – 9
2	A – 9
4	B – 10
5	C – 9
6	D – 10
7	D – 10
8	D – 10
1	C – 9
2	C – 8
3	C – 7
1	C – 8
1	B – 1
3	B – 1
5	A – 1
6	B – 2
7	B – 2
1	B – 9
1	E – 8
3	D – 9

– A BOARD –


1-650-756-11 (170808411)
1
2
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4
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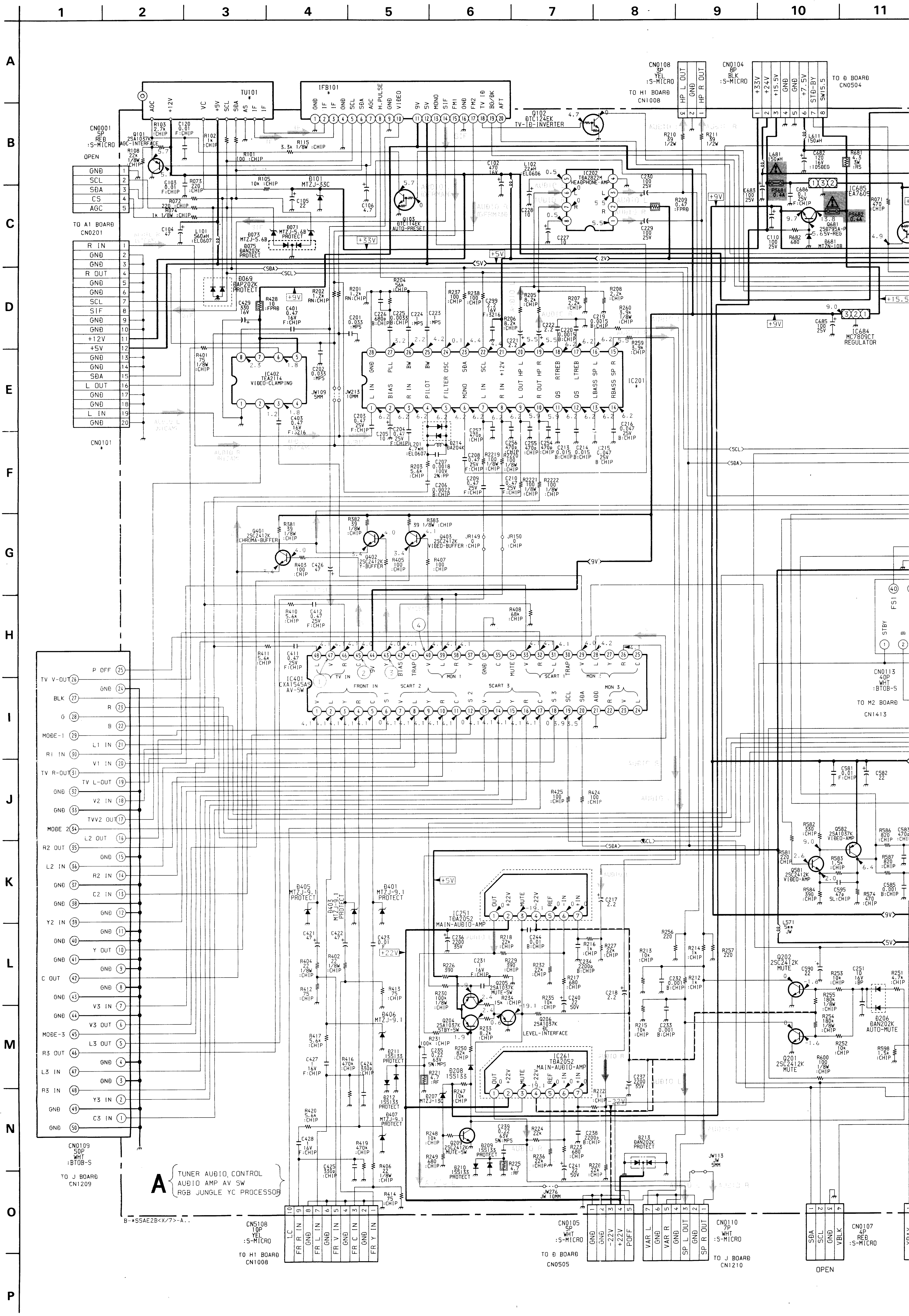
6
7
8
9
10
A
B
C
D
E
TU101
IFB101
SONY
CAD
AGC
CS
SDA
SCL
GND
VBLK

Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.


1
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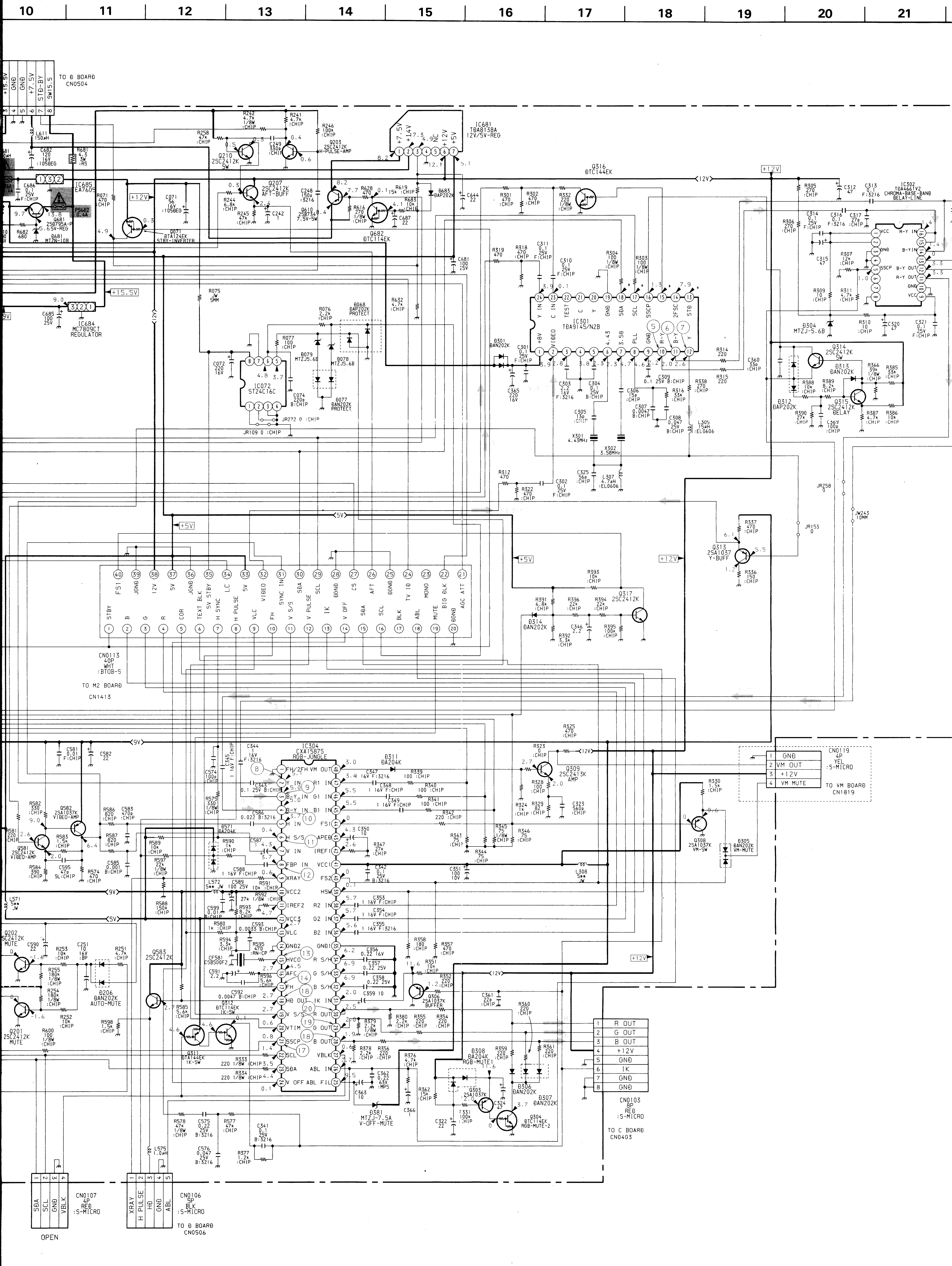
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
TU101
IFB101
CN0001 5P RED :S-MICRO
OPEN
TO A1 BOARD CN0201
CN0101
Q101 2SA1037K AGC-INTERFACE
D101 MTZJ-33C
Q102 DTC124EK TV-ID-INVERTER
Q103 DTC114EK AUTO-PRESET
IC202 TDA2822M HEADPHONE-AMP
CN0108 3P YEL :S-MICRO
TO H1 BOARD CN1008
CN0104 8P BLK :S-MICRO
TO D BOARD CN0504
IC685 TEA7605
Q681 2SD795A-P 5.6V-REG
D681 MTZN-10B
IC684 MC7809CT REGULATOR
D069 DAP202K PROTECT
D071 MTZJ-5.6B PROTECT
D073 MTZJ-5.6B
D075 DAN202K PROTECT
IC402 TEA2114 VIDEO-CLAMPING
IC201
Q401 2SC2412K CHROMA-BUFFER
Q402 2SC2412K Y-BUFFER
Q403 2SC2412K VIDEO-BUFFER
IC401 CXA1545AS AV-SW
TV IN
FRONT IN
SCART 2
SCART 3
SCART 1
MON 1
MON 2
MON 3
CN0113 40P WHT :BTOB-S
TO M2 BOARD CN1413
Q582 2SA1037K VIDEO-AMP
Q581 2SC2412K VIDEO-AMP
CN0109 50P WHT :BTOB-S
TO J BOARD CN1209
IC251 TDA2052 MAIN-AUDIO-AMP
IC261 TDA2052 MAIN-AUDIO-AMP
Q204 2SA1037K STBY-SW
Q205 2SA1037K MUTE-SW
Q206 2SA1037K DC LEVEL-INTERFACE
Q209 2SC2412K MUTE-SW
Q202 2SC2412K MUTE
Q201 2SC2412K MUTE
D206 DAN202K AUTO-MUTE
D213 DAN202K PROTECT
D405 MTZJ-9.1 PROTECT
D403 MTZJ-9.1 PROTECT
D401 MTZJ-9.1 PROTECT
D406 MTZJ-9.1
D407 MTZJ-9.1 PROTECT
D211 1SS133 PROTECT
D212 1SS133 PROTECT
D208 1SS133
D209 1SS133 PROTECT
D210 1SS133 PROTECT
D207 MTZJ-13C
CN5108 10P YEL :S-MICRO
TO H1 BOARD CN1008
CN0105 5P WHT :S-MICRO
TO D BOARD CN0505
CN0110 7P WHT :S-MICRO
TO J BOARD CN1210
CN0107 4P RED :S-MICRO
OPEN
B-*SSAE2B<X/7>-A..

A TUNER AUDIO CONTROL
AUDIO AMP AV SW
RGB JUNGLE YC PROCESSOR


10
11
12
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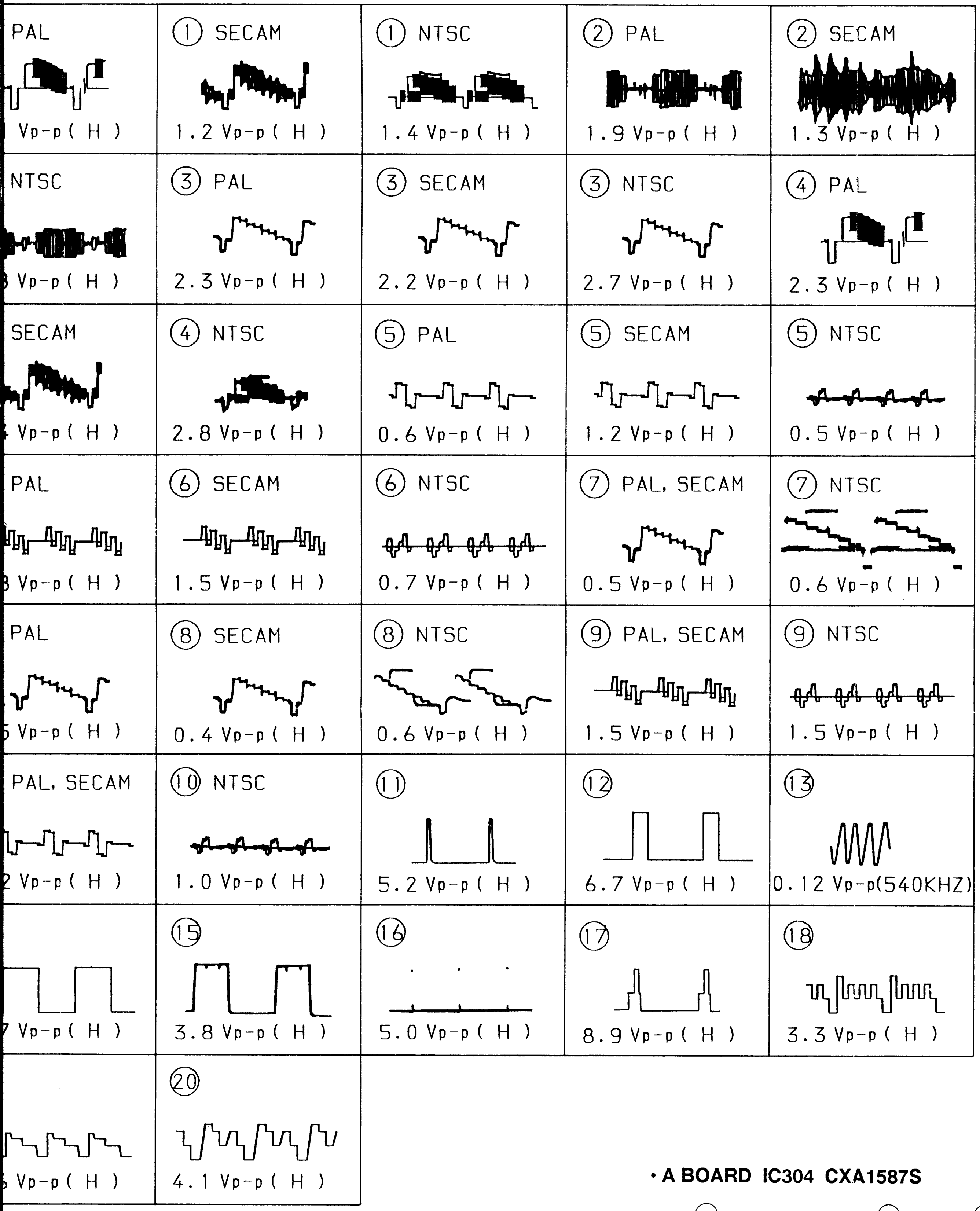
16
17
18
19
20
21
TO D BOARD CN0504
+15.5V
GND
GND
+7.5V
STD-BY
SW15.5
L611 150μH
C682 120 16V :105DEG
R681 4.3 3W :RS
IC685 EA7605
Q681 2SB795A-P 6.5V-REG
D681 MTZN-10B
PS682 0.4A
R071 470 :CHIP
+12V
C071 56 16V :105DEG
Q071 DTA124EK STBY-INVERTER
R242 4.7k 1/8W :CHIP
R241 4.7k :CHIP
R258 47k :CHIP
Q210 2SC2412K SW
C249 330p :CHIP
Q203 2SC2412K H-PULSE-AMP
R246 100k :CHIP
Q207 2SC2412K AFT-BUFF
R244 6.8k :CHIP
R245 47k :CHIP
C242 1
C248 150p :3216
Q610 2SB734 7.5V-SW
R616 270 1/8W :CHIP
R628 470
Q682 DTC114EK
R619 15k :CHIP
R683 10k :CHIP
C687 22
D683 DAP202K
C644 22
C681 100 25V
IC681 TDA8138A 12V/5V-REG
+7.5V
+14V
NC
+12V
+5V
IC684 MC7809CT REGULATOR
C685 100 25V
+15.5V
R075 JW 5MM
R076 2.2k :CHIP
D068 DAP202K PROTECT
R077 100 :CHIP
D079 MTZJ5.6B
D078 MTZJ5.6B
C072 220 16V
IC072 ST24C16C
C074 220p B:CHIP
D077 DAN202K PROTECT
JR272 0 :CHIP
JR109 0 :CHIP
R632 4.7k :CHIP
Q316 DTC144EK
R301 470 :CHIP
R302 470 :CHIP
R332 220 1/8W :CHIP
R319 470
R318 470 :CHIP
C311 0.1 25V F:CHIP
C310 0.1 25V F:CHIP
R304 100 1/8W :CHIP
R303 100 1/8W :CHIP
IC301 TDA9145/N2B
Y IN
C IN
TEST
C
Y
GND
SDA
SCL
SSCP
2FSC
STB
+8V
VIDEO
4.43
3.58
PLL
R-Y
B-Y
D301 DAN202K
C301 0.1 25V F:CHIP
C365 220 16V
C303 2.2 16V F:3216
C304 0.1 25V B:CHIP
C305 15p :CHIP
C306 15p :CHIP
C307 0.0047 B:CHIP
C309 25V B:CHIP
R316 33k :CHIP
R338 270 :CHIP
C308 0.047 25V B:CHIP
L305 15μH :EL0606
X301 4.43MHz
X302 3.58MHz
R314 220
R315 220
C360 33p :CHIP
R312 470
R322 470 :CHIP
C302 0.1 25V F:CHIP
C325 56p :CHIP
L307 4.7μH :EL0606
+12V
R305 270 :CHIP
C312 47
C313 0.1 F:3216
IC302 TDA4661V2 CHROMA-BASE-BAND DELAY-LINE
R306 270 :CHIP
C314 0.1 25V F:CHIP
C316 0.1 F:3216
C317 27p :CHIP
VCC
R-Y IN
GND
B-YIN
SSCP
B-Y OUT
R-Y OUT
C315 47
R307 12k :CHIP
R309 10 :CHIP
R311 4.7k :CHIP
D304 MTZJ-5.6B
R310 10 :CHIP
C320 47
C321 0.1 25V F:CHIP
Q314 2SC2412K SW
D313 DAN202K
R366 39k 1/8W :CHIP
R385 33k :CHIP
R388 10k :CHIP
R389 8.2k :CHIP
D312 DAP202K
Q315 2SC2412K DELAY
R390 27k :CHIP
C369 100p :CHIP
R387 4.7k :CHIP
R386 10k :CHIP
JR258 0
JW243 10MM
JR153 0
R337 470 :CHIP
Q313 2SA1037 Y-BUFF
R336 150 :CHIP
R393 10k :CHIP
R391 6.8k :CHIP
R396 22k :CHIP
R394 22k :CHIP
Q317 2SC2412K
D314 DAN202K
C346 2.2
R395 100k :CHIP
R392 3.3k :CHIP
5V
+5V
+12V
FS1
JGND
12V
5V
JGND
5V STBY
LC
5V
VIDEO
SYNC IN
SDA
SCL
DGND
CS
AFT
DGND
TV ID
MONO
BIG BLK
AGC ATT
STBY
B
G
R
COR
TEXT BLK
H SYNC
H PULSE
VLC
FH
V S/S
V PULSE
IK
V OFF
SDA
SCL
BLK
ABL
MUTE
DGND
CN0113 40P WHT :BTOB-S
TO M2 BOARD CN1413
9V
C581 0.01 F:CHIP
C582 22
IC304 CXA1587S RGB-JUNGLE
C344 1 16V F:3216
C345 1 16V F:CHIP
C574 100p :CHIP
C343 0.1 25V B:CHIP
C586 0.022 B:3216
R575 330 1/8W :CHIP
FH/2FH
Y IN
R-Y IN
B-Y IN
H S/S
V IN
FBP IN
XRAY
VCC2
IREF2
VCC3
VLC
GND2
HVCO
AFC
FH
HD OUT
V S/S
VTIM
SSCP
SCL
SDA
V OFF
VM OUT
R1 IN
G1 IN
B1 IN
FS1
APED
IREF
VCC1
FS2
HSW
R2 IN
G2 IN
B2 IN
GND1
R S/H
G S/H
B S/H
IK IN
R OUT
G OUT
B OUT
VBLK
ABL IN
ABL FIL
D311 DA204K
C347 1 16V F:3216
R339 100 :CHIP
C348 1 16V F:CHIP
R340 100 :CHIP
C349 1 16V F:CHIP
R341 100 :CHIP
R342 220 :CHIP
C350 10
R347 27k :CHIP
C342 0.1 25V B:3216
C351 100 10V
C353 1 16V F:CHIP
C354 1 16V F:CHIP
C355 1 16V F:3216
C356 0.22 16V
C357 0.22 25V
C358 0.22 25V
C359 10
R343 75 :CHIP
R344 75 :CHIP
R345 75 1/8W :CHIP
R346 75 :CHIP
R582 330 :CHIP
Q582 2SA1037K VIDEO-AMP
R586 820 :CHIP
C583 470p :CHIP
Q581 2SC2412K VIDEO-AMP
R581 220 :CHIP
R583 1.5k :CHIP
R587 820 :CHIP
R584 390 :CHIP
C595 47 9L:CHIP
R574 470 :CHIP
C585 0.001 B:CHIP
R571 DA204K
R589 10k :CHIP
R590 1k :CHIP
C587 1
R597 22k 1/8W :CHIP
C588 1 16V F:CHIP
L572 5mm JW
C589 100 25V
R591 10k :CHIP
R592 27k 1/8W :CHIP
R593 8.2k :CHIP
C599 0.01 B:CHIP
R588 150k :CHIP
L571 5mm JW
C593 0.0033 B:CHIP
R580 1k :CHIP
R594 3.3k :CHIP
R595 470 :RN-CP
CF581 CSB500F2
C591 2.2
R596 5.6k :CHIP
C592 0.0047 B:CHIP
Q312 DTC114EK IK-SW
Q583 2SC2412K
R585 5.6k :CHIP
Q311 DTA144EK IK-SW
R333 220 1/8W :CHIP
R334 220 1/8W :CHIP
Q202 2SC2412K MUTE
C590 22
R253 10k :CHIP
C251 10 16V :BP
R251 4.7k :CHIP
R255 180k 1/8W :CHIP
R254 180k 1/8W :CHIP
D206 DAN202K AUTO-MUTE
R252 10k :CHIP
Q201 2SC2412K MUTE
R600 100 1/8W :CHIP
R598 1.5k :CHIP
R578 47k 1/8W :CHIP
C575 0.22 25V B:3216
R577 47k :CHIP
C576 0.047 25V B:3216
C341 0.1 25V B:3216
R377 1.2k :CHIP
L575 1.0μH
D381 MTZJ-7.5A V-OFF-MUTE
C363 10
C366 1
C362 0.22 63V :MPS
R378 2.2k :CHIP
R356 220 :CHIP
R376 4.7k :CHIP
R358 180 :CHIP
R357 470 :CHIP
R351 10k :CHIP
R352 220 :CHIP
Q306 2SA1037K BUFFER
R380 2.2k :CHIP
R379 2.2k 1/8W :CHIP
R355 220 :CHIP
R354 220 :CHIP
C361 22p :CHIP
R360 220 :CHIP
R359 220 :CHIP
R361 220 :CHIP
D308 DA204K RGB-MUTE1
R362 15k :CHIP
Q303 2SA1037K
C324 47
F331 100k :CHIP
C322 22
D306 DAN202K
D307 DAN202K
Q304 DTC114EK RGB-MUTE-2
R325 470 :CHIP
R323 0 :CHIP
Q309 2SC2413K AMP
R328 100 :CHIP
R324 1k :CHIP
R329 82 :CHIP
C323 560p :CHIP
R330 1.5k :CHIP
Q308 2SA1037K VM-SW
D305 DAN202K VM-MUTE
L308 5mm JW
+12V
CN0119 4P YEL :S-MICRO
GND
VM OUT
+12V
VM MUTE
TO VM BOARD CN1819
R OUT
G OUT
B OUT
+12V
GND
IK
GND
GND
CN0103 8P RED :S-MICRO
TO C BOARD CN0403
SDA
SCL
GND
VBLK
CN0107 4P RED :S-MICRO
OPEN
XRAY
H PULSE
HD
GND
ABL
CN0106 5P BLK :S-MICRO
TO D BOARD CN0506

VEFORMS A BOARD



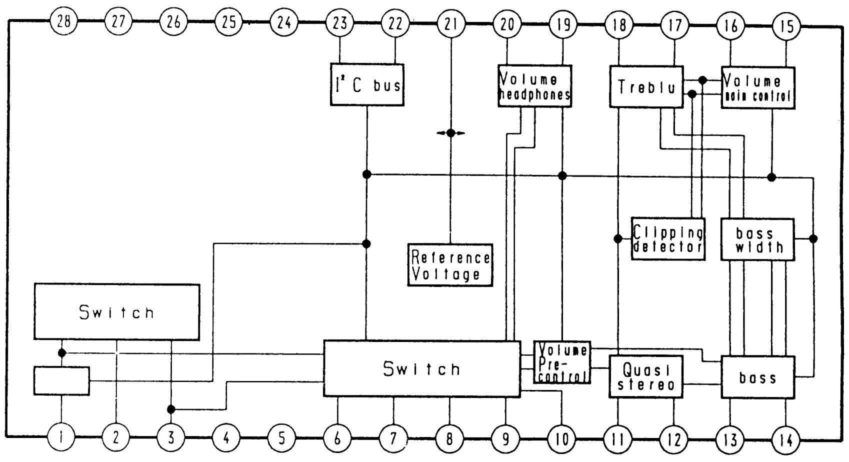
the voltage volue shown by
mark ※ on the Schematic
am, see the another list.

ARD

	PAL	SECAM	NTSC3.58	NTSC4.43
⑬	0.0	0.0	4.8	4.9
⑮	0.0	5.0	5.0	0.0
⑰	4.7	4.2	3.6	4.1
⑱	4.8	4.4	4.6	4.8
B)	0.0	0.0	0.0	1.6
C)	5.5	5.5	5.5	0.1
B)	0.0	5.5	5.5	0.0
C)	0.0	0.0	0.0	1.6

	KV-X2971B	KV-X2971D	KV-X2971K	KV-X2973E	KV-X2972U
	-	-	-	20P	20P
	TDA6612	TDA6612	TDA6612	TDA6612	TDA6622
	IFH-389F	IFH-389	IFH-389	IFH-389	IFH-395
	UV916H	UV916H	UV916H	UV916H	U944C

• A BOARD IC201 TDA6622 (UK Model only)


I²C bus
Volume headphones
Treblu
Volume main control
Reference Voltage
Clipping detector
bass width
Switch
Switch
Volume Pre-control
Quasi stereo
bass
28
27
26
25
24
23
22
21
20
19
18
17
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15
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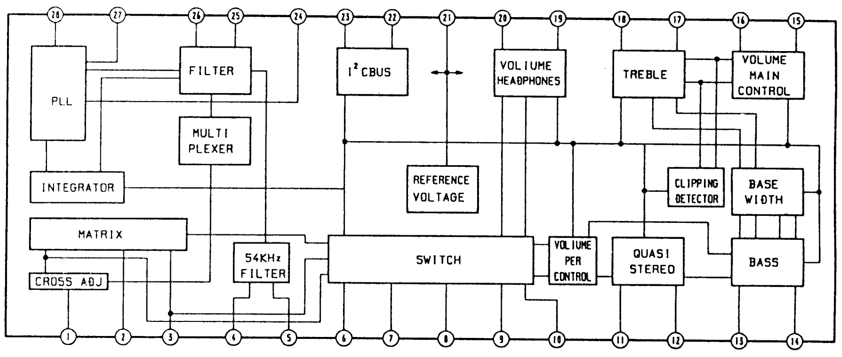
13
14

• A BOARD IC201 TDA6612


PLL
FILTER
MULTI PLEXER
I²CBUS
VOLIUME HEADPHONES
TREBLE
VOLUME MAIN CONTROL
INTEGRATOR
REFERENCE VOLTAGE
CLIPPING DETECTOR
BASE WIDTH
MATRIX
CROSS ADJ
54KHz FILTER
SWITCH
VOLIUME PER CONTROL
QUASI STEREO
BASS
28
27
26
25
24
23
22
21
20
19
18
17
16
15
1
2
3
4
5
6
7
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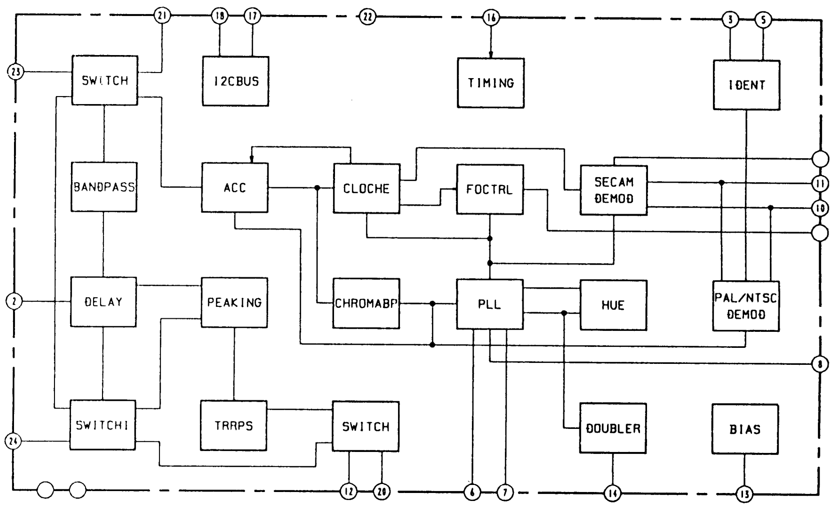
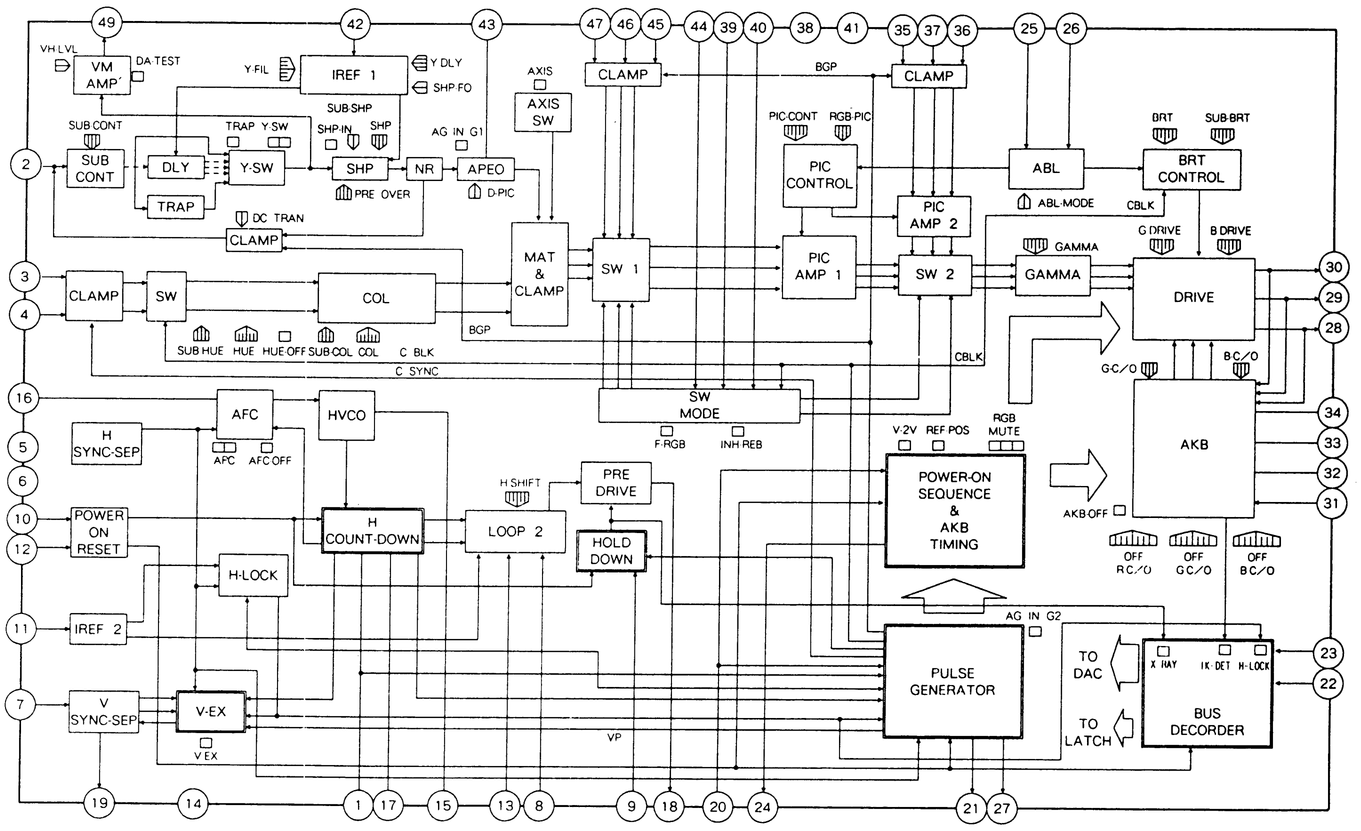
11
12
13
14

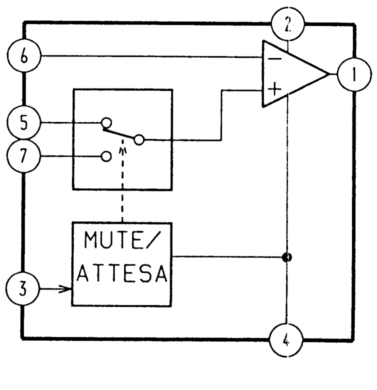
• A BOARD IC301 TDA9145


21
18
17
22
16
3
5
23
SWITCH
I2CBUS
TIMING
IDENT
BANDPASS
ACC
CLOCHE
FOCTRL
SECAM DEMOD
11
10
2
DELAY
PEAKING
CHROMABP
PLL
HUE
PAL/NTSC DEMOD
8
24
SWITCHI
TRAPS
SWITCH
DOUBLER
BIAS
12
20
6
7
14
13

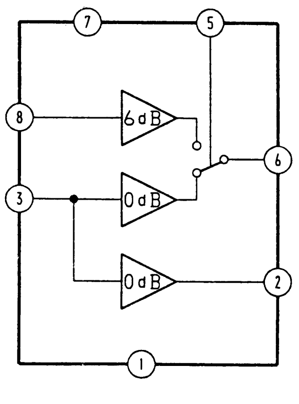
• A BOARD IC304 CXA1587S


49
42
43
47
46
45
44
39
40
38
41
35
37
36
25
26
VH·LVL
VM AMP´
DA·TEST
Y·FIL
IREF 1
Y DLY
SHP·FO
AXIS
AXIS SW
CLAMP
BGP
CLAMP
SUB·SHP
SUB·CONT
TRAP
Y·SW
SHP·IN
SHP
AG IN G1
PIC·CONT
RGB·PIC
BRT
SUB·BRT
2
SUB CONT
DLY
Y·SW
SHP
NR
APEO
PIC CONTROL
ABL
BRT CONTROL
TRAP
PRE OVER
D·PIC
ABL·MODE
CBLK
DC TRAN
CLAMP
PIC AMP 2
G DRIVE
B DRIVE
GAMMA
3
4
CLAMP
SW
COL
MAT & CLAMP
SW 1
PIC AMP 1
SW 2
GAMMA
DRIVE
30
29
28
BGP
SUB HUE
HUE
HUE·OFF
SUB·COL
COL
C BLK
C SYNC
CBLK
G·C/O
B·C/O
16
AFC
HVCO
SW MODE
5
H SYNC·SEP
AFC
AFC OFF
F·RGB
INH·REB
V·2V
REF·POS
RGB MUTE
AKB
34
33
32
31
6
H SHIFT
PRE DRIVE
POWER-ON SEQUENCE & AKB TIMING
AKB·OFF
10
12
POWER ON RESET
H COUNT-DOWN
LOOP 2
HOLD DOWN
OFF RC/O
OFF GC/O
OFF BC/O
H·LOCK
AG IN G2
11
IREF 2
PULSE GENERATOR
TO DAC
X RAY
IK·DET
H·LOCK
23
22
7
V SYNC·SEP
V·EX
V EX
VP
TO LATCH
BUS DECORDER
19
14
1
17
15
13
8
9
18
20
24
21
27

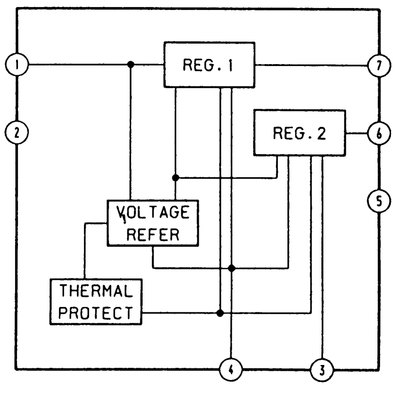
• A BOARD IC251/261 TDA2052


2
6
1
5
7
MUTE/ ATTESA
3
4

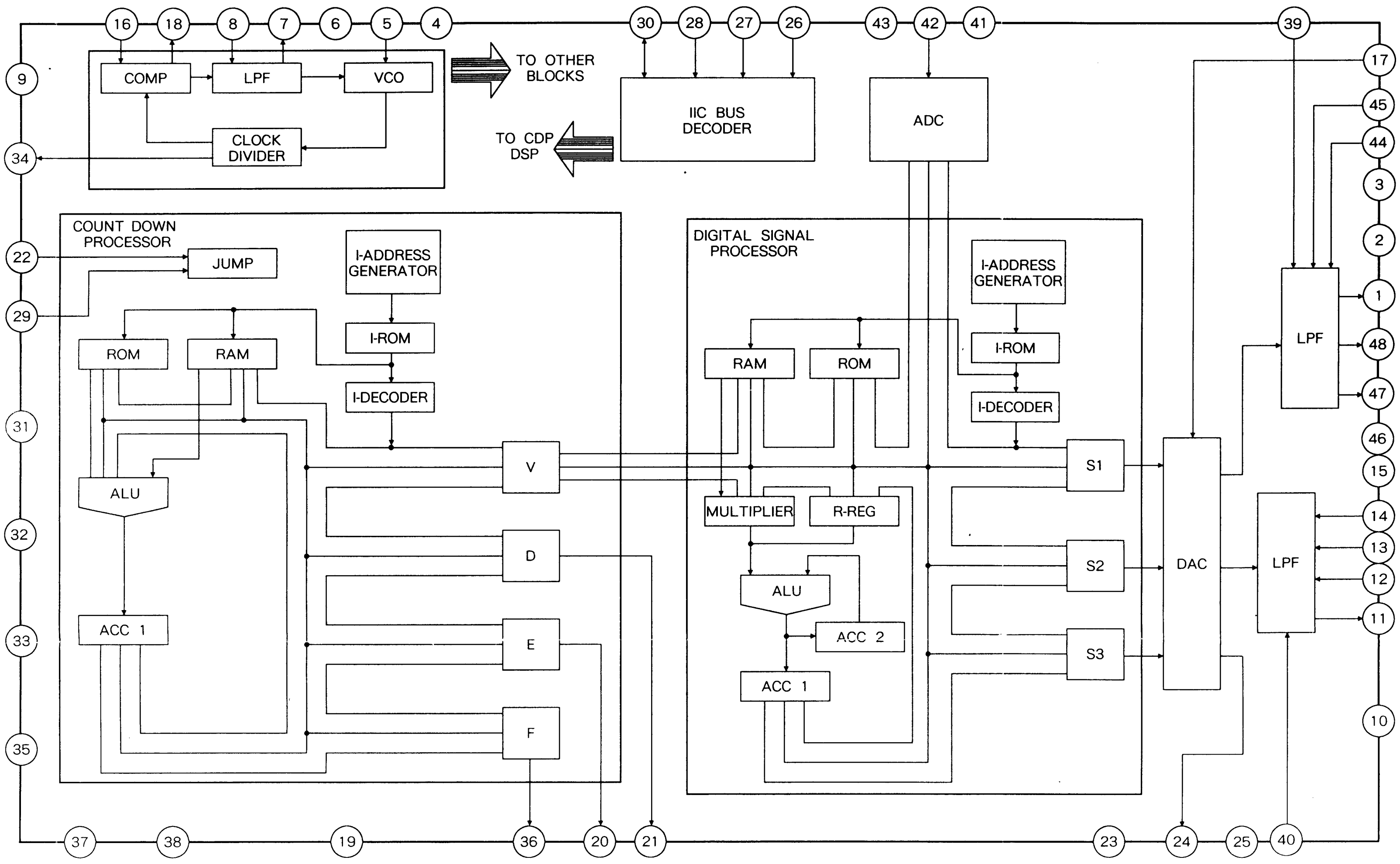
• A BOARD IC402 TEA2114


7
5
8
6dB
6
3
0dB
0dB
2
1

• A BOARD IC681 TDA8134A

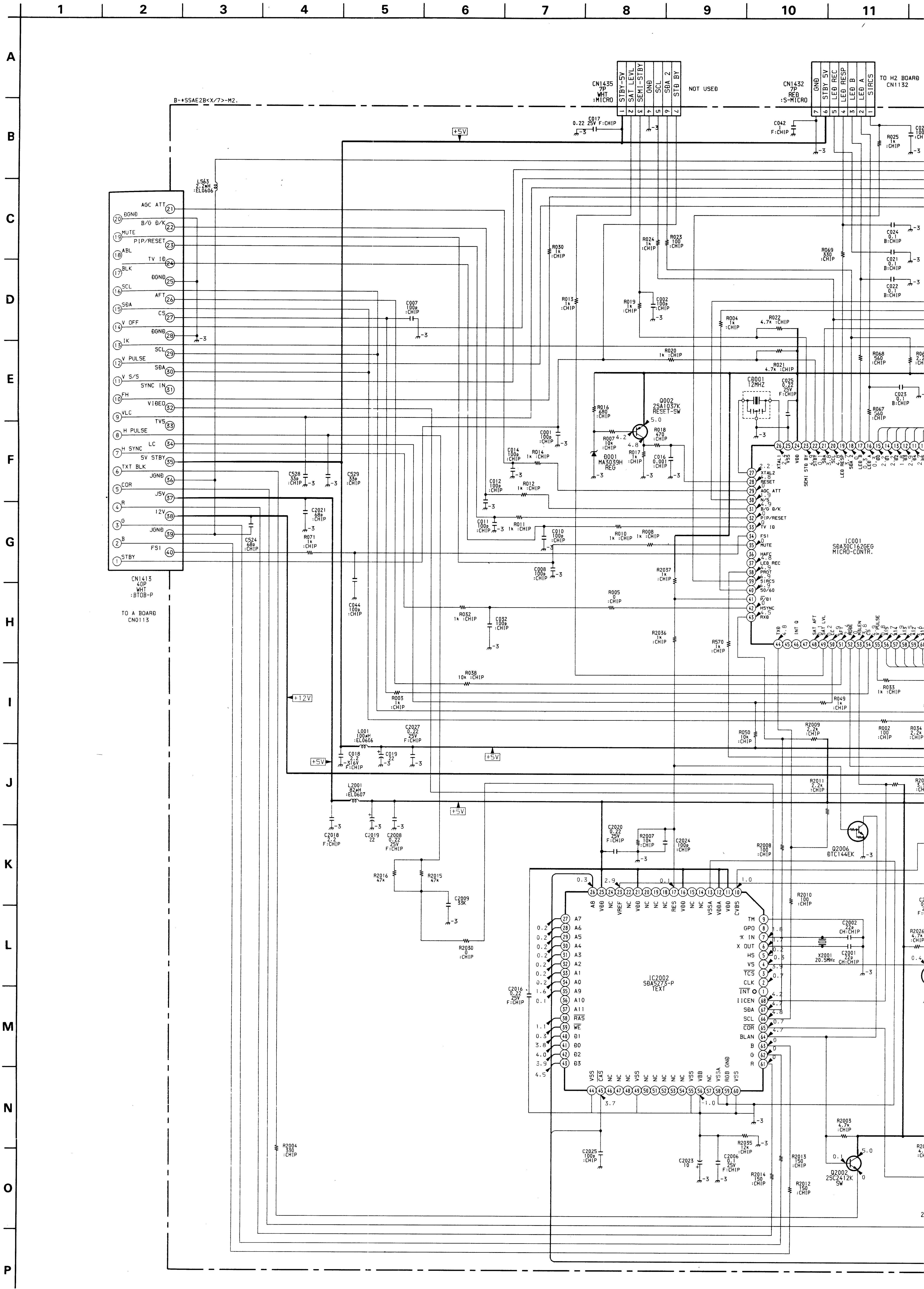

1
REG. 1
7
2
REG. 2
6
5
VOLTAGE REFER
THERMAL PROTECT
4
3

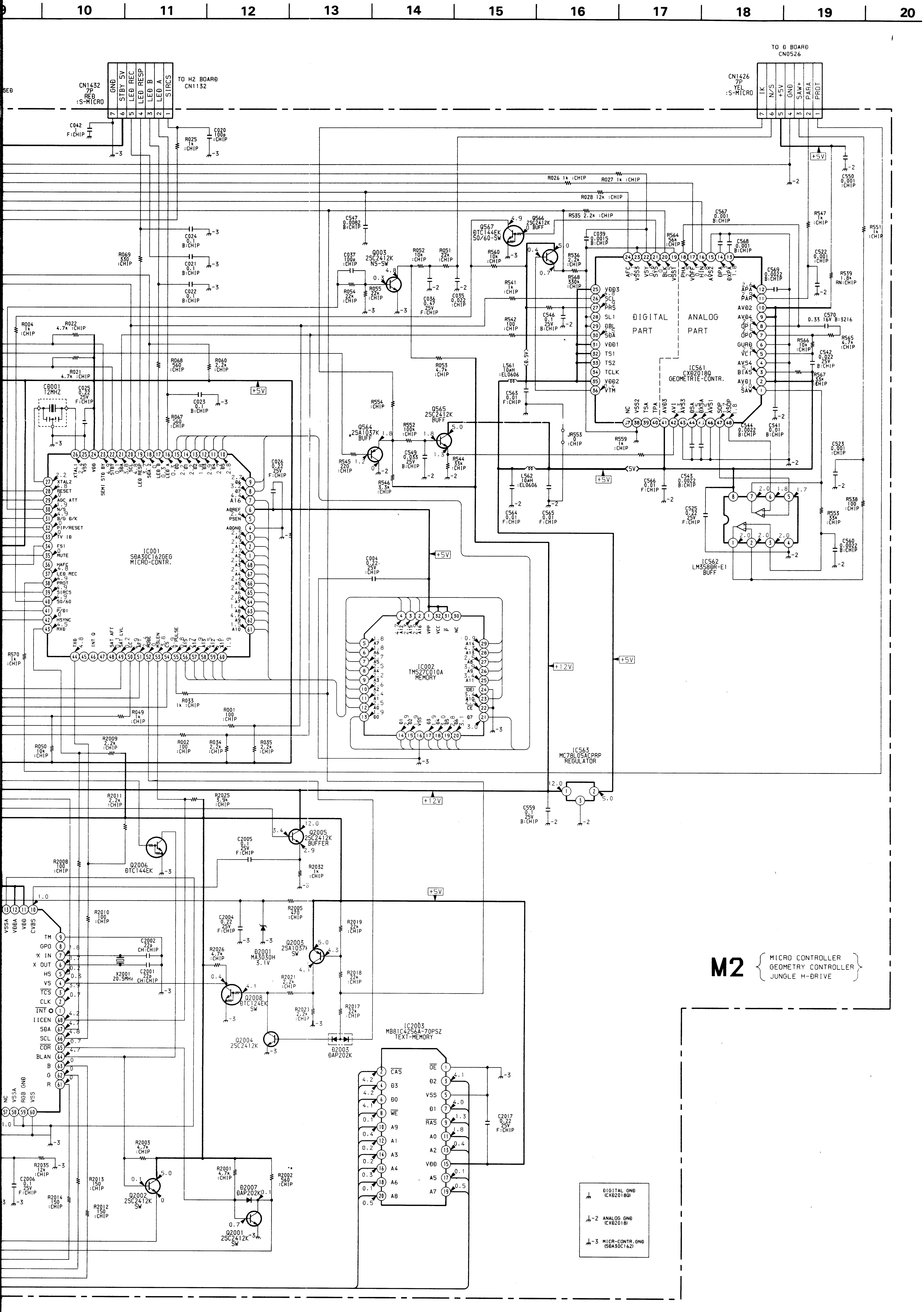
• M2 BOARD IC561 CXD2018Q


COMP
LPF
VCO
CLOCK DIVIDER
TO OTHER BLOCKS
TO CDP DSP
IIC BUS DECODER
ADC
COUNT DOWN PROCESSOR
JUMP
I-ADDRESS GENERATOR
I-ROM
I-DECODER
ROM
RAM
ALU
ACC 1
V
D
E
F
DIGITAL SIGNAL PROCESSOR
RAM
ROM
I-ADDRESS GENERATOR
I-ROM
I-DECODER
MULTIPLIER
R-REG
ALU
ACC 2
ACC 1
S1
S2
S3
DAC
LPF
LPF
16
18
8
7
6
5
4
30
28
27
26
43
42
41
39
9
34
22
29
31
32
33
35
17
45
44
3
2
1
48
47
46
15
14
13
12
11
10
37
38
19
36
20
21
23
24
25
40

1

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P


B-*SSAE2B<X/7>-M2.
CN1435 7P WHT :MICRO
STBY-5V
SAT LEVL
SEMI-STBY
GND
SCL
SDA 2
STD BY
NOT USED
CN1432 7P RED :S-MICRO
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
TO H2 BOARD CN1132
C017 0.22 25V F:CHIP
C042 F:CHIP
R025 1k :CHIP
+5V
L563 2.2μH :EL0606
AGC ATT
DGND
B/G D/K
MUTE
PIP/RESET
ABL
TV ID
BLK
DGND
SCL
AFT
SDA
CS
V OFF
DGND
IK
SCL
V PULSE
SDA
V S/S
SYNC IN
FH
VIDEO
VLC
TV5
H PULSE
LC
H SYNC
5V STBY
TXT BLK
JGND
COR
J5V
R
12V
G
JGND
B
FS1
STBY
CN1413 40P WHT :BTOB-P
TO A BOARD CN0113
R030 1k :CHIP
R024 1k :CHIP
R023 100 :CHIP
R069 330 :CHIP
C024 0.1 B:CHIP
C021 0.1 B:CHIP
C022 0.1 B:CHIP
C007 100p :CHIP
R013 1k :CHIP
R019 1k :CHIP
C002 100p :CHIP
R004 1k :CHIP
R022 4.7k :CHIP
R020 1k :CHIP
R021 4.7k :CHIP
R068 560 :CHIP
CB001 12MHZ
C025 0.22 25V F:CHIP
C023 0.1 B:CHIP
R067 560 :CHIP
R016 680 :CHIP
Q002 2SA1037K RESET-SW
R018 470 :CHIP
R007 10k :CHIP
D001 MA3039H REG
R017 1k :CHIP
C016 0.001 :CHIP
C001 100p :CHIP
C014 100p :CHIP
R014 1k :CHIP
C012 100p :CHIP
R012 1k :CHIP
C011 100p :CHIP
R011 1k :CHIP
C010 100p :CHIP
R010 1k :CHIP
R008 1k :CHIP
C008 100p :CHIP
C528 33p :CHIP
C529 33p :CHIP
C2021 68p :CHIP
C524 68p :CHIP
R071 1k :CHIP
C044 100p :CHIP
R037 1k :CHIP
R005 0 :CHIP
R032 1k :CHIP
C032 100p :CHIP
R2036 1k :CHIP
R570 1k :CHIP
IC001 SDA30C162GEG MICRO-CONTR.
XTAL1
VSS
VDD
SEMI STD BY
STBY
SDA
SCL
LED B
LED A
XTAL2
RESET
AGC ATT
N/S
B/G D/K
PIP/RESET
TV ID
FS1
MUTE
HAFC
LED REC
PROT
SIRCS
50/60
P/D1
HSYNC
RXD
TXD
INT D
SAT AFT
SAT LVL
MODE
MSLEN
V PULSE
R038 10k :CHIP
R033 1k :CHIP
R003 1k :CHIP
R049 1k :CHIP
+12V
L001 100μH :EL0606
C2027 0.22 25V F:CHIP
C018 2.2 16V F:CHIP
C019 22
R050 10k :CHIP
R2009 2.2k :CHIP
R002 100 :CHIP
R034 2.2k :CHIP
+5V
L2001 82μH :EL0607
R2011 2.2k :CHIP
C2018 2.2 F:CHIP
C2019 22
C2008 0.22 25V F:CHIP
C2020 0.22 25V F:CHIP
R2007 10k :CHIP
C2024 100p :CHIP
R2008 100 :CHIP
Q2006 DTC144EK
R2016 47k
R2015 47k
C2009 33K
R2030 0 :CHIP
R2010 100 :CHIP
C2002 22p CH:CHIP
X2001 20.5MHz
C2001 22p CH:CHIP
C2016 0.22 25V F:CHIP
IC2002 SDA5273-P TEXT
A8
VDD
NC
VREF
VDD
RES
VSSA
VDDA
CVBS
A7
A6
A5
A4
A3
A2
A1
A0
A9
A10
A11
RAS
WE
D1
D0
D2
D3
TM
GPO
X IN
X OUT
HS
VS
TCS
CLK
INT
ICEN
SDA
SCL
COR
BLAN
B
G
R
VSS
CAS
VBB
RGB GND
R2004 330 :CHIP
C2025 100p :CHIP
C2023 10
C2006 0.1 25V F:CHIP
R2035 12k :CHIP
R2013 150 :CHIP
R2014 150 :CHIP
R2012 150 :CHIP
R2003 4.7k :CHIP
Q2002 2SC2412K SW
1 2 3 4 5 6 7 8 9 10 11
A B C D E F G H I J K L M N O P

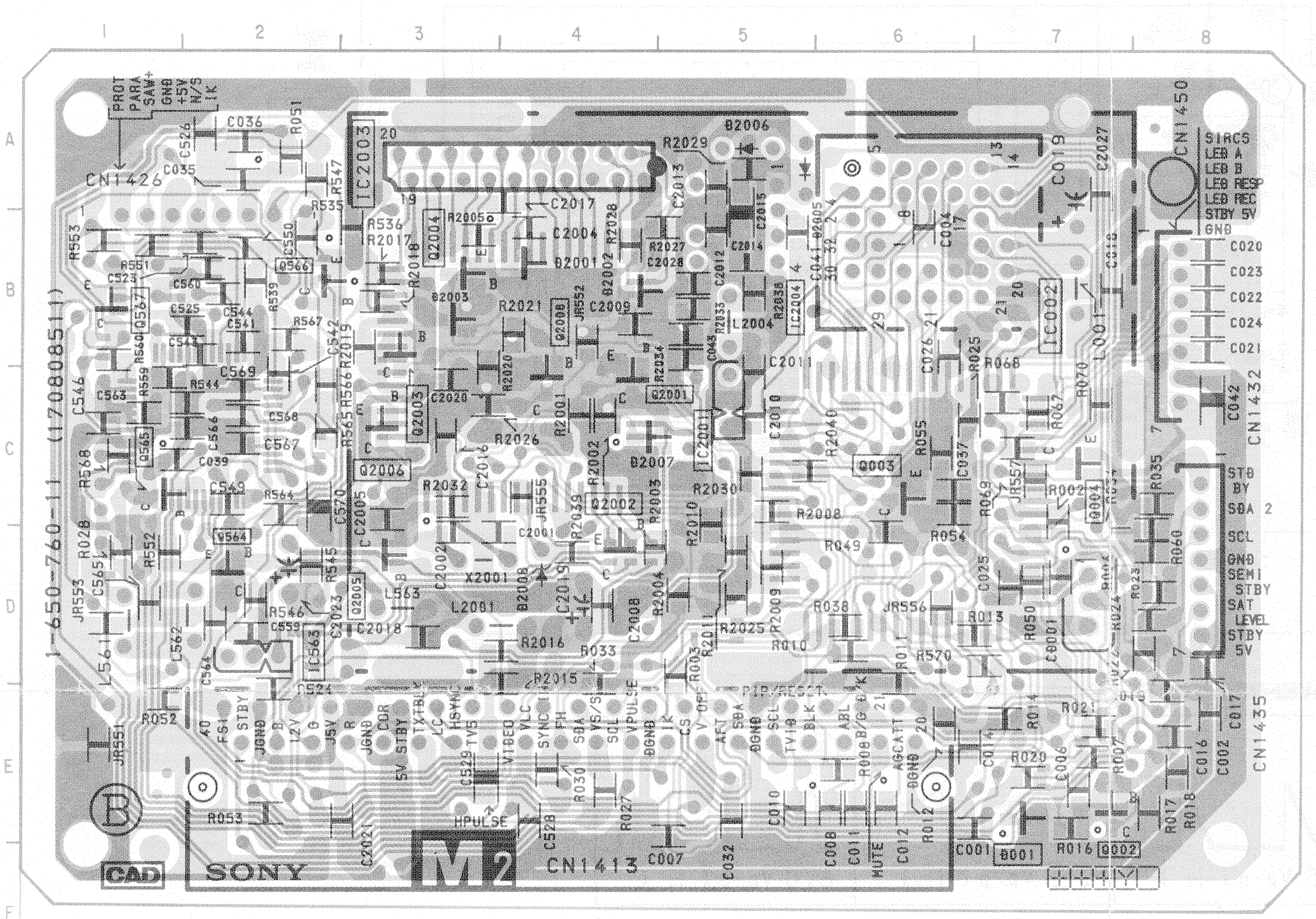


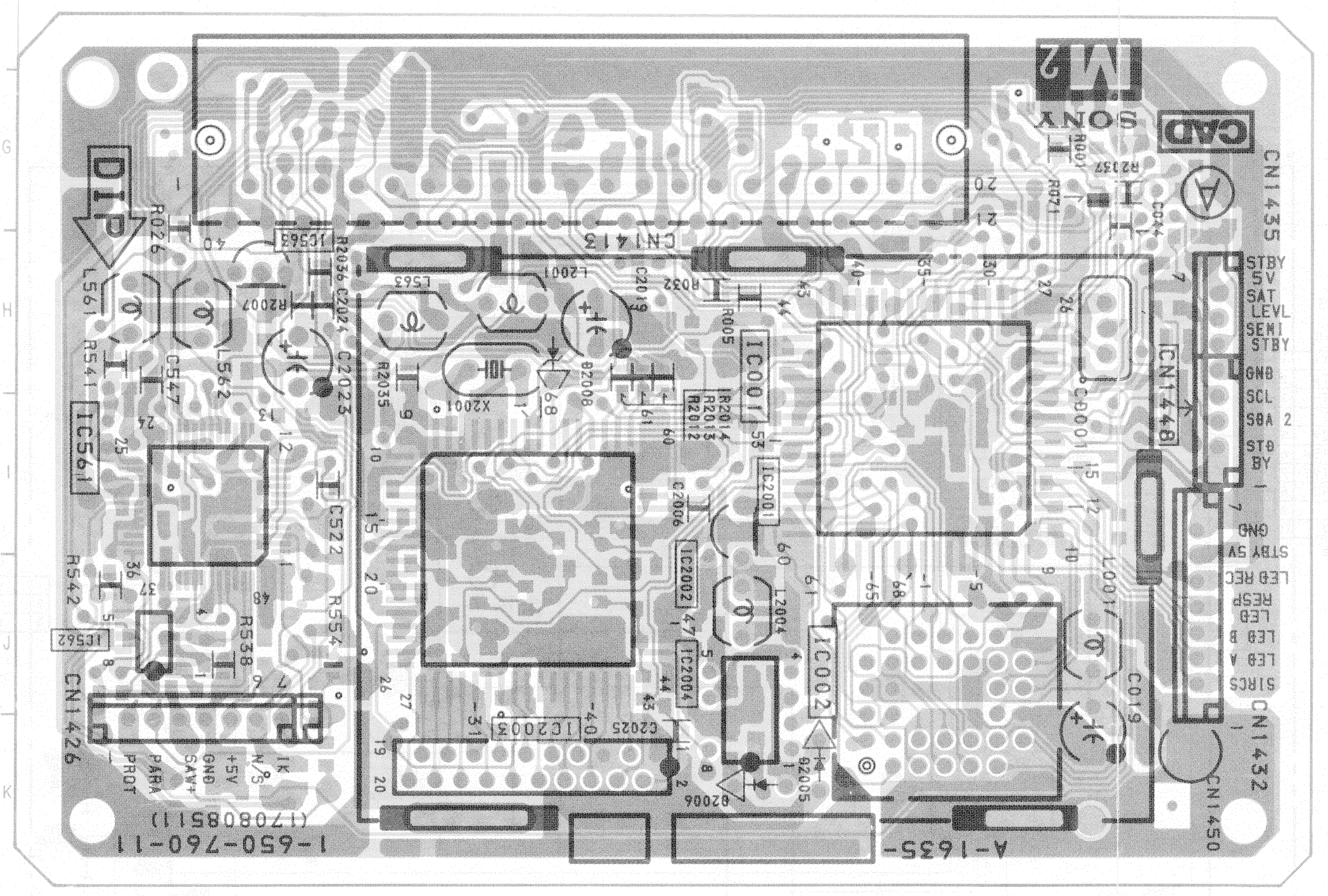
10
11
12
13
14
15
16
17
18
19
20
CN1432 7P RED :S-MICRO
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
TO H2 BOARD CN1132
TO D BOARD CN0526
CN1426 7P YEL :S-MICRO
IK
N/S
+5V
GND
SAW+
PARA
PROT
IC001 SDA30C162GEG MICRO-CONTR.
CD001 12MHZ
IC002 TMS27C010A MEMORY
IC561 CXD2018Q GEOMETRIE-CONTR.
DIGITAL PART
ANALOG PART
IC562 LM358DR-E1 BUFF
IC563 MC78L05ACPRP REGULATOR
IC2003 MB81C4256A-70PSZ TEXT-MEMORY
Q003 2SC2412K NS-SW
Q564 2SA1037K BUFF
Q565 2SC2412K BUFF
Q566 2SC2412K BUFF
Q567 DTC144EK 50/60-SW
Q2001 2SC2412K SW
Q2002 2SC2412K SW
Q2003 2SA1037K SW
Q2004 2SC2412K
Q2005 2SC2412K BUFFER
Q2006 DTC144EK
Q2008 DTC124EK SW
D2001 MA3030H 3.1V
D2003 DAP202K
D2007 DAP202K
X2001 20.5MHz
L561 10µH :EL0606
L562 10µH :EL0606
+5V
+12V
5V
DIGITAL GND (CXD2018Q)
-2 ANALOG GND (CXD2018)
-3 MICR-CONTR. GND (SDA30C162)

M2 MICRO CONTROLLER / GEOMETRY CONTROLLER / JUNGLE H-DRIVE

M2 [MICRO CONTROLLER, GEOMETRY CONTROLLER, JUNGLE, H – DRIVE] **D** [H/V OUT, PIN OUT, POWER SUPPLY]

– M2 BOARD –


1
2
3
4
5
6
7
8
A
B
C
D
E
F
CN1426
IC2003
IC2004
IC002
IC2001
CN1450
CN1432
CN1435
CN1413
1-650-760-11 (170808511)
SONY
M2
CAD
B
SIRCS
LED A
LED B
LED RESP
LED REC
STBY 5V
GND
STB BY
SDA 2
SCL
GND
SEMI STBY
SAT LEVEL
STBY 5V
PROT
PARA
SAW+
GND
+5V
N/S
IK
HPULSE
MUTE


G
H
I
J
K
DIP
CN1426
IC561
IC562
IC563
IC001
IC2001
IC2002
IC2003
IC2004
IC002
CN1413
CN1448
CN1435
CN1432
CN1450
X2001
1-650-760-11
(170808511)
A-1635-
SONY
M2
CAD
A
STBY 5V
SAT LEVL
SEMI STBY
GND
SCL
SDA 2
STB BY
GND
STBY 5V
LED REC
RESP LED
LED B
LED A
SIRCS
PROT
PARA
SAW+
GND
+5V
N/S
IK

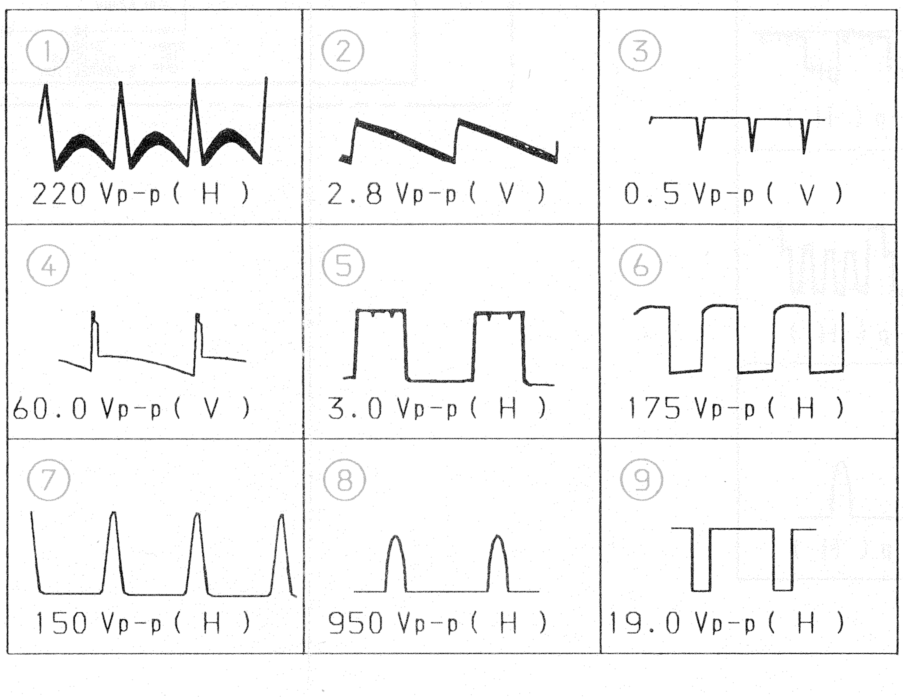
IC	
IC001	C – 3
IC002	B – 3, J – 3
IC561	C – 8
IC562	B – 8
IC563	D – 7, H – 7
IC2001	C – 4, I – 4
IC2002	C – 6
IC2003	B – 5, J – 6
IC2004	A – 4, J – 4

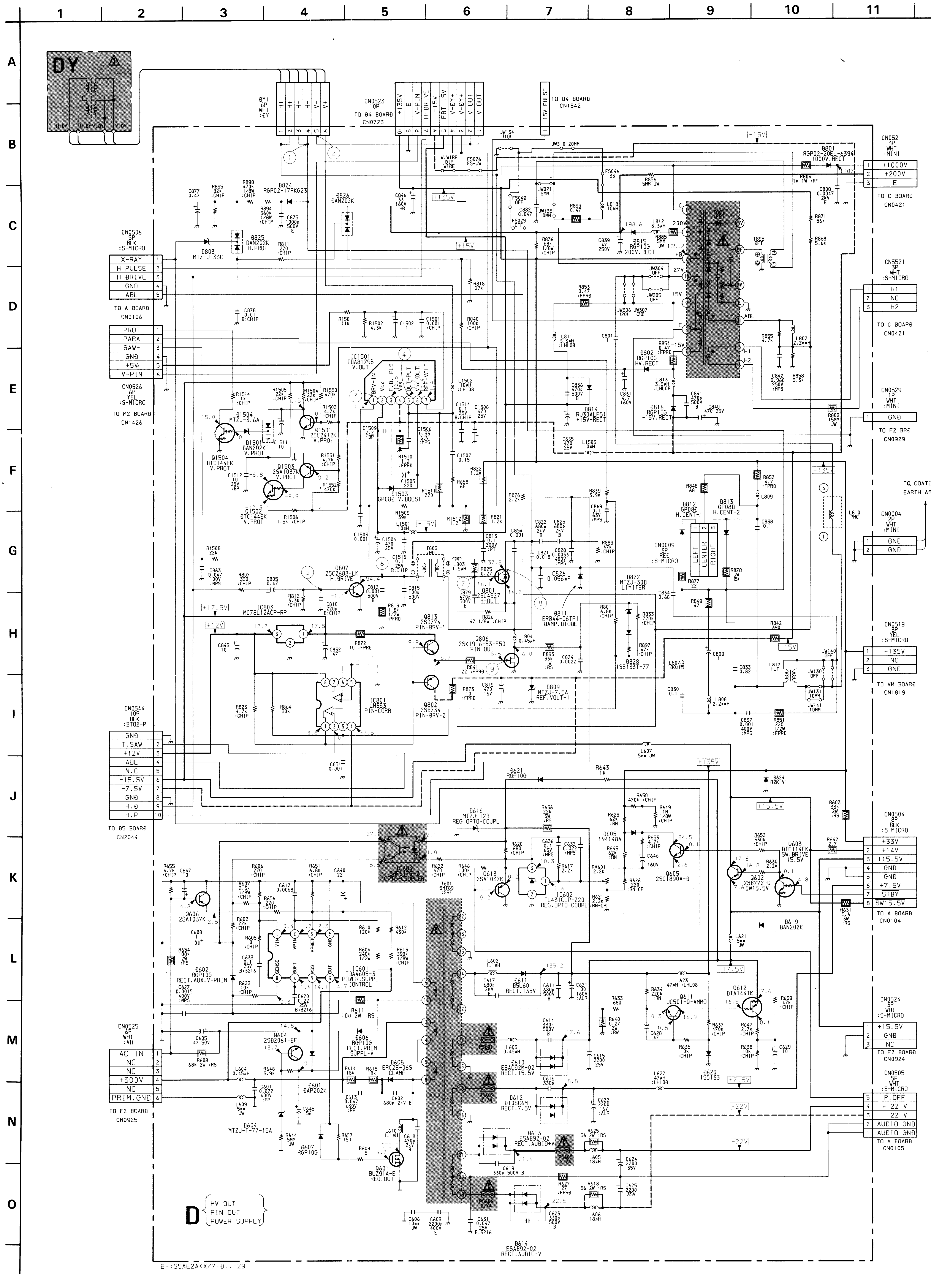
TRANSISTOR	
Q002	G – 2
Q003	I – 3
Q564	H – 7
Q565	I – 8
Q566	J – 7
Q567	J – 8
Q2001	I – 5
Q2002	J – 5
Q2003	I – 6
Q2005	H – 5
Q2006	K – 5
Q2008	I – 6

DIODE	
D001	G – 2
D2001	I – 5
D2002	J – 5
D2003	I – 6

Note :
- ▢ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

• WAVEFORMS D BOARD

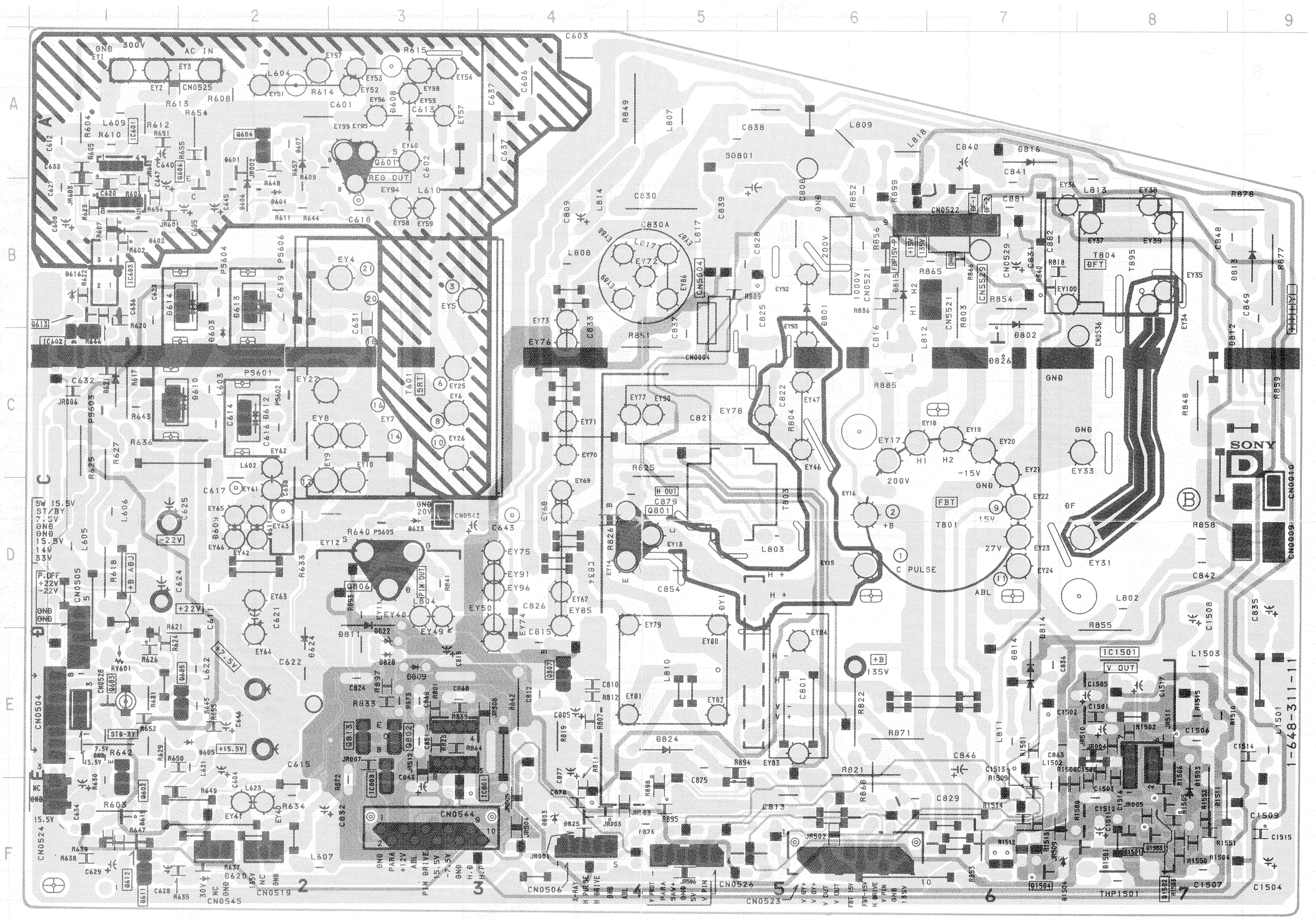


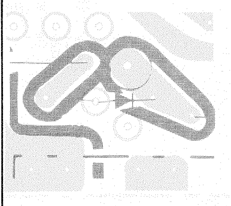

DY
H.DY
H.DY V.DY
V.DY
DY1 6P WHT :DY
H+
H+
H-
H-
V-
V+
CN0523 10P TO D4 BOARD CN0723
+135V
E
V-PIN
H-DRIVE
-15V
FBT 15V
V-DY+
V-DY+
V-OUT
V-OUT
15V PULSE
TO D4 BOARD CN1842
CN0506 5P BLK :S-MICRO
X-RAY
H PULSE
H DRIVE
GND
ABL
TO A BOARD CN0106
PROT
PARA
SAW+
GND
+5V
V-PIN
CN0526 6P YEL :S-MICRO
TO M2 BOARD CN1426
IC1501 TDA8179S V.OUT
D824 RGP02-17PKG23
D826 DAN202K
D825 DAN202K H.PROT
D803 MTZ-J-33C
Q1504 DTC144EK V.PROT
D1504 MTZJ-3.6A
D1501 DAN202K V.PROT
Q1501 2SC2412K V.PROT
Q1503 2SA1037K V.PROT
Q1502 DTC144EK V.PROT
D1503 GP08D V.BOOST
Q807 2SC2688-LK H.DRIVE
IC803 MC78L12ACP-RP
T803 HDT
Q801 2SC4927 H-OUT
D811 ERB44-06TP1 DAMP.DIODE
D822 MTZJ-30B LIMITER
D828 1SS133T-77
Q813 2SB774 PIN-DRV-1
Q806 2SK1916-53-F50 PIN-OUT
IC801 LM393 PIN-CORR
Q802 2SB734 PIN-DRV-2
D809 MTZJ-7.5A REF.VOLT-1
D801 RGP02-20EL-6394 1000V.RECT
T801 FBT
T895 DFT
D815 RGP10G 200V.RECT
D802 RGP10G HV.RECT
D814 RU3OALFS1 +15V-RECT
D816 RGP15G -15V.RECT
D812 GP08D H.CENT-1
D813 GP08D H.CENT-2
CN0009 3P RED :S-MICRO
LEFT
CENTER
RIGHT
CN0521 3P WHT :MINI
+1000V
+200V
E
TO C BOARD CN0421
CN5521 3P WHT :S-MICRO
H1
NC
H2
TO C BOARD CN0421
CN0529 1P WHT :MINI
GND
TO F2 BRD CN0929
TO COATING EARTH AS
CN0004 2P WHT :MINI
GND
GND
CN0519 3P YEL :S-MICRO
+135V
NC
GND
TO VM BOARD CN1819
CN0544 10P BLK :BTOB-P
GND
T.SAW
+12V
ABL
N.C
+15.5V
-7.5V
GND
H.D
H.P
TO D5 BOARD CN2044
D621 RGP10G
D616 MTZJ-12B REG.OPTO-COUPL
IC603 SHF6170-2 OPTO-COUPLER
Q613 2SA1037K
IC602 TL431CLP-Z20 REG.OPTO-COUPL
D605 1N4148A
Q605 2SC1890A-D
Q603 DTC114EK SW.DRIVE 15.5V
Q602 2SB772-Q SW15.5V
D624 R2K-V1
D619 DAN202K
Q606 2SA1037K
IC601 TDA4605-3 POWER.SUPPL CONTROL
D602 RGP10G RECT.AUX.V-PRIM
T601 SMT89 :SRT
D611 D5L60 RECT.135V
Q611 JC501-Q-AMMO
Q612 DTA144TK
D620 1SS133
Q604 2SD2061-EF
D606 RGP10G FECT.PRIM SUPPL-V
D608 ERC25-06S CLAMP
D601 DAP202K
D604 MTZJ-T-77-15A
D607 RGP10G
Q601 BUZ91A-E REG.OUT
PS601 2.7A
PS602 2.7A
PS603 2.7A
PS604 2.7A
D610 ESAC92M-02 RECT.15.5V
D612 D10SC6M RECT.7.5V
D613 ESAB92-02 RECT.AUDIO+V
D614 ESAB92-02 RECT.AUDIO-V
CN0504 8P BLK :S-MICRO
+33V
+14V
+15.5V
GND
GND
+7.5V
STBY
SW15.5V
TO A BOARD CN0104
CN0524 3P WHT :S-MICRO
+15.5V
GND
NC
TO F2 BOARD CN0924
CN0505 5P WHT :S-MICRO
P.OFF
+ 22 V
- 22 V
AUDIO GND
AUDIO GND
TO A BOARD CN0105
CN0525 6P WHT :VH
AC IN
NC
NC
+300V
NC
PRIM.GND
TO F2 BOARD CN0925
D HV OUT PIN OUT POWER SUPPLY
B-:SSAE2A<X/7-D..-29

Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

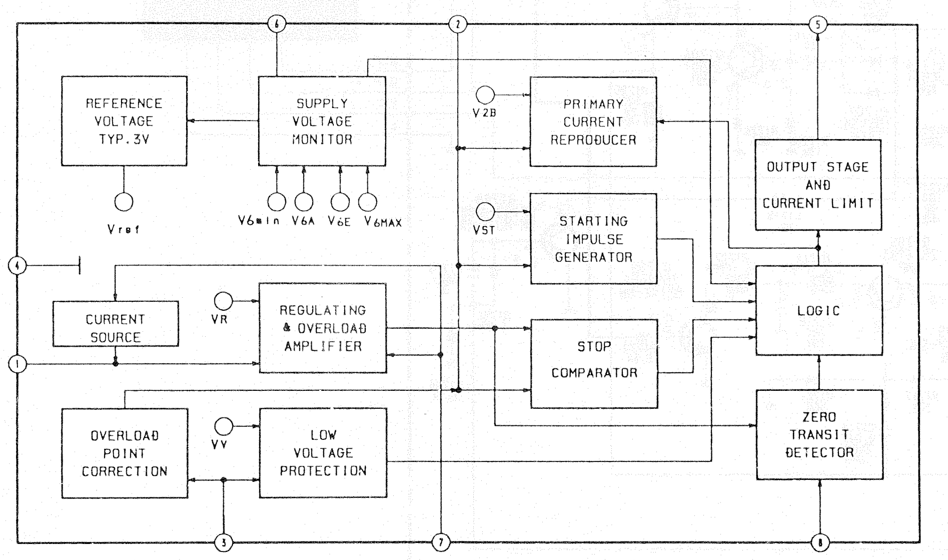
– D BOARD –


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
SONY
D
1-648-311-11
CN0504
CN0505
CN0524
CN0525
CN0544
CN0545
CN0519
CN0506
CN0526
CN0523
CN0522
CN0521
CN0536
CN0010
CN0009
IC1501
V OUT
T801
FBT
T804
BFT
THP1501
C PULSE
ABL
135V
200V
-15V
AC IN
300V
GND



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

• D BOARD IC601 TDA4605-3


REFERENCE VOLTAGE TYP.3V
SUPPLY VOLTAGE MONITOR
PRIMARY CURRENT REPRODUCER
OUTPUT STAGE AND CURRENT LIMIT
STARTING IMPULSE GENERATOR
LOGIC
CURRENT SOURCE
REGULATING & OVERLOAD AMPLIFIER
STOP COMPARATOR
OVERLOAD POINT CORRECTION
LOW VOLTAGE PROTECTION
ZERO TRANSIT DETECTOR
Vref
V6min
V6A
V6E
V6MAX
V2B
VST
VR
VV
1
2
3
4
5
6
7
8

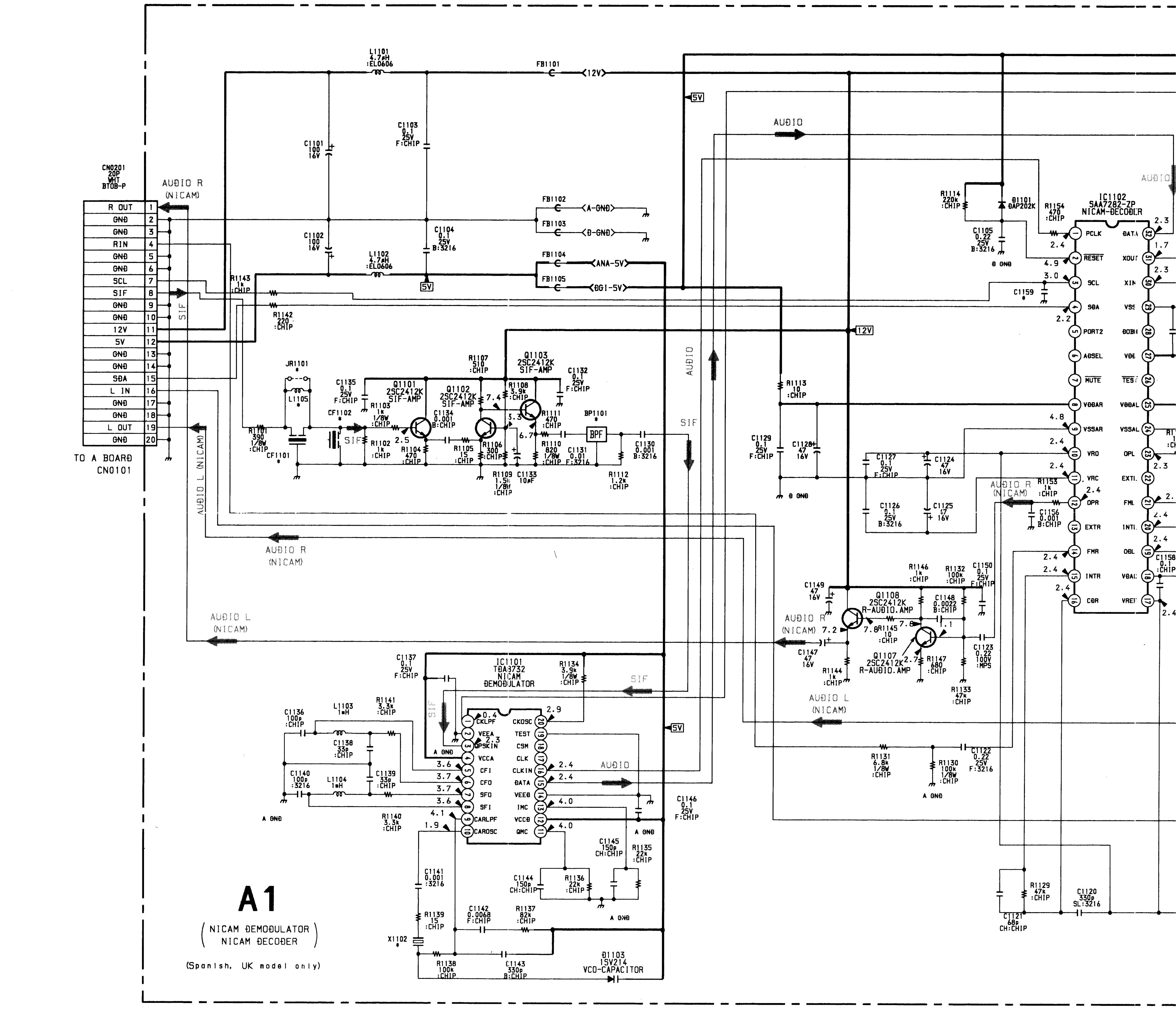
IC	
IC601	A – 1
IC602	C – 1
IC603	B – 1
IC801	E – 3
IC803	F – 3
IC1501	E – 8

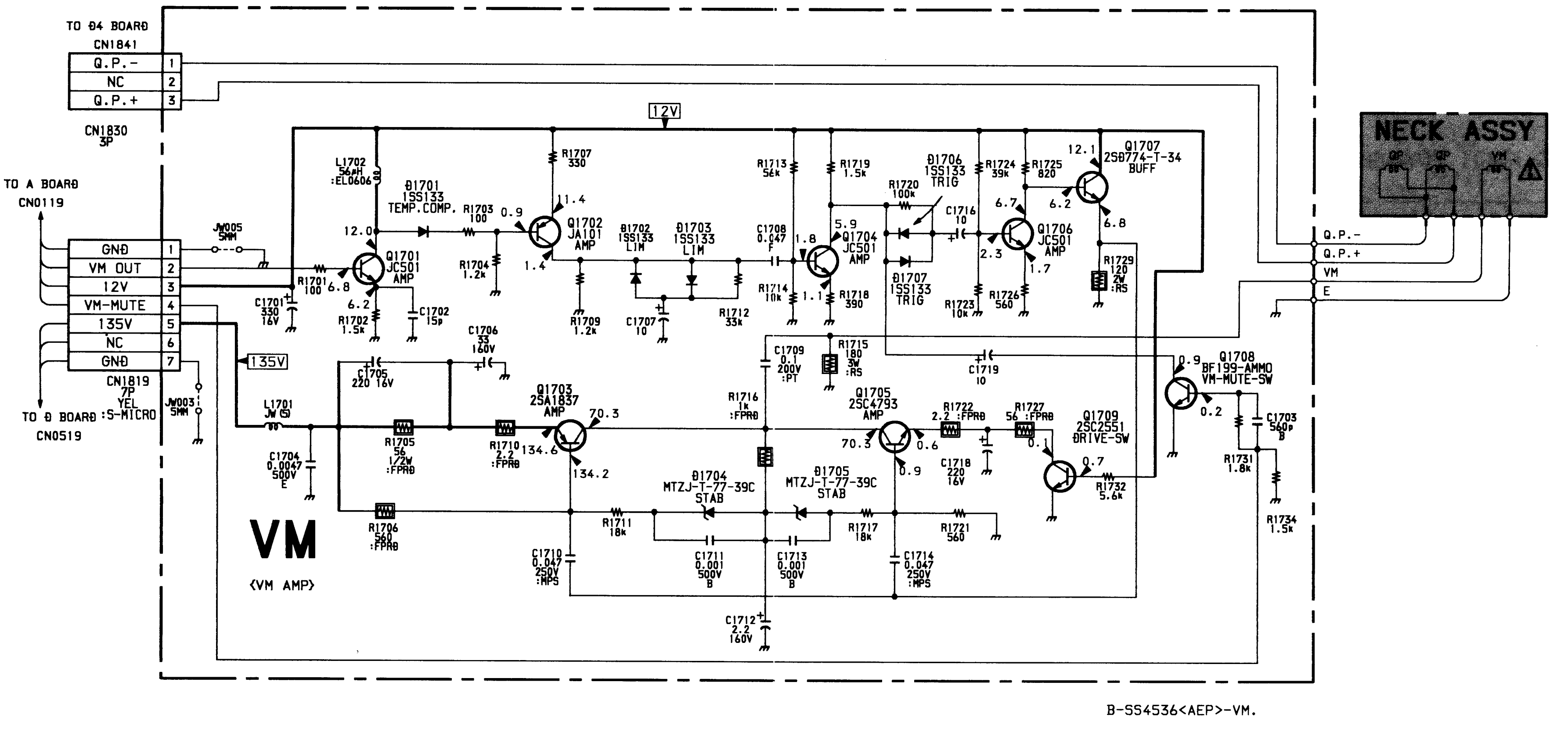
TRANSISTOR	
Q601	A – 3
Q602	F – 1
Q603	E – 1
Q604	A – 2
Q605	E – 2
Q606	B – 2
Q611	F – 1
Q612	F – 1
Q613	B – 1
Q801	D – 5
Q802	E – 3
Q806	D – 3
Q807	E – 4
Q813	E – 3
Q1501	F – 8
Q1502	F – 8
Q1503	F – 8
Q1504	F – 7

DIODE	
D601	A – 2
D602	B – 1
D604	B – 2
D605	E – 2
D606	B – 2
D607	A – 2
D608	A – 3
D610	C – 2
D611	D – 2
D612	C – 2
D613	B – 2
D614	B – 2
D616	B – 1
D619	F – 1
D620	F – 2
D621	C – 1
D624	E – 2
D801	B – 6
D802	B – 7
D803	F – 4
D809	E – 3
D811	D – 3
D812	C – 9
D813	B – 9
D814	E – 7
D815	B – 6
D816	A – 7
D822	E – 3
D824	E – 5
D825	F – 4
D826	C – 7
D828	E – 3
D1501	F – 8
D1503	F – 8
D1504	F – 7

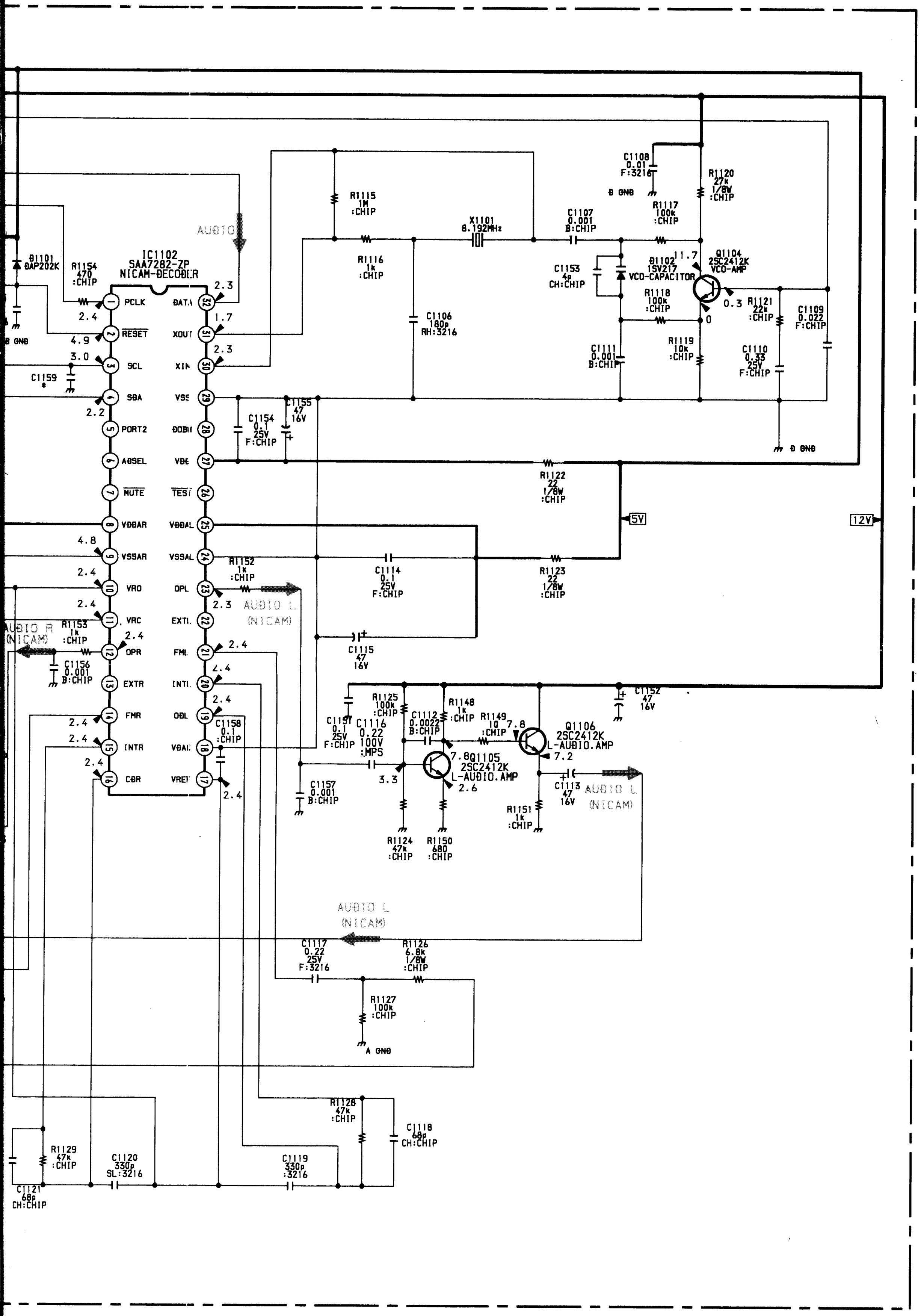
VARIABLE RESISTOR	
RV601	E – 1

(Spanish, UK Model only)


A1
(NICAM DEMODULATOR NICAM DECODER)
(Spanish, UK model only)
CN0201 20P WHT BTOB-P
R OUT
GND
RIN
SCL
SIF
12V
5V
SDA
L IN
L OUT
TO A BOARD CN0101
AUDIO R (NICAM)
AUDIO L (NICAM)
AUDIO
SIF
12V
5V
L1101 4.7μH :EL0606
FB1101
FB1102 A-GND
FB1103 D-GND
FB1104 ANA-5V
FB1105 DGI-5V
Q1101 2SC2412K SIF-AMP
Q1102 2SC2412K SIF-AMP
Q1103 2SC2412K SIF-AMP
BPF1101
IC1101 TDA3732 NICAM DEMODULATOR
IC1102 SAA7282-ZP NICAM-DECODER
Q1108 2SC2412K R-AUDIO.AMP
Q1107 2SC2412K R-AUDIO.AMP
D1101 DAP202K
D1103 1SV214 VCO-CAPACITOR
X1102
A GND


VM
(VM AMP)
TO D4 BOARD CN1841
Q.P.-
NC
Q.P.+
CN1830 3P
TO A BOARD CN0119
GND
VM OUT
12V
VM-MUTE
135V
NC
GND
CN1819 7P YEL :S-MICRO
TO D BOARD CN0519
12V
135V
Q1701 JC501 AMP
Q1702 JA101 AMP
D1701 1SS133 TEMP.COMP.
D1702 1SS133 LIM
D1703 1SS133 LIM
Q1703 2SA1837 AMP
Q1704 JC501 AMP
Q1705 2SC4793 AMP
Q1706 JC501 AMP
D1706 1SS133 TRIG
D1707 1SS133 TRIG
Q1707 2SD774-T-34 BUFF
Q1708 BF199-AMMO VM-MUTE-SW
Q1709 2SC2551 DRIVE-SW
D1704 MTZJ-T-77-39C STAB
D1705 MTZJ-T-77-39C STAB
NECK ASSY
Q.P.-
Q.P.+
VM
E

B-SS4536<AEP>-VM.

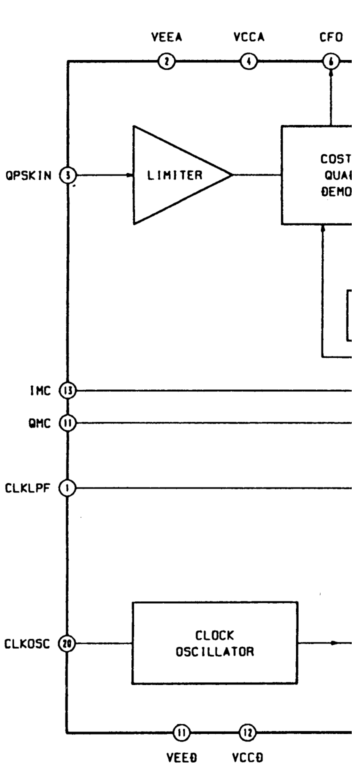

IC1102
SAA7282-ZP
NICAM-DECODER
D1101
BAP202K
R1154 470 :CHIP
PCLK
RESET
SCL
SDA
PORT2
ADSEL
MUTE
VDDAR
VSSAR
VRO
VRC
OPR
EXTR
FMR
INTR
CDR
DATA
XOUT
XIN
VSS
DDBH
VDD
TEST
VDDAL
VSSAL
OPL
EXTL
FML
INTL
ODL
VDAL
VREF
X1101 8.192MHz
Q1104 2SC2412K VCO-AMP
D1102 1SV217 VCO-CAPACITOR
Q1105 2SC2412K L-AUDIO.AMP
Q1106 2SC2412K L-AUDIO.AMP
AUDIO
AUDIO R (NICAM)
AUDIO L (NICAM)
5V
12V
B GND
A GND

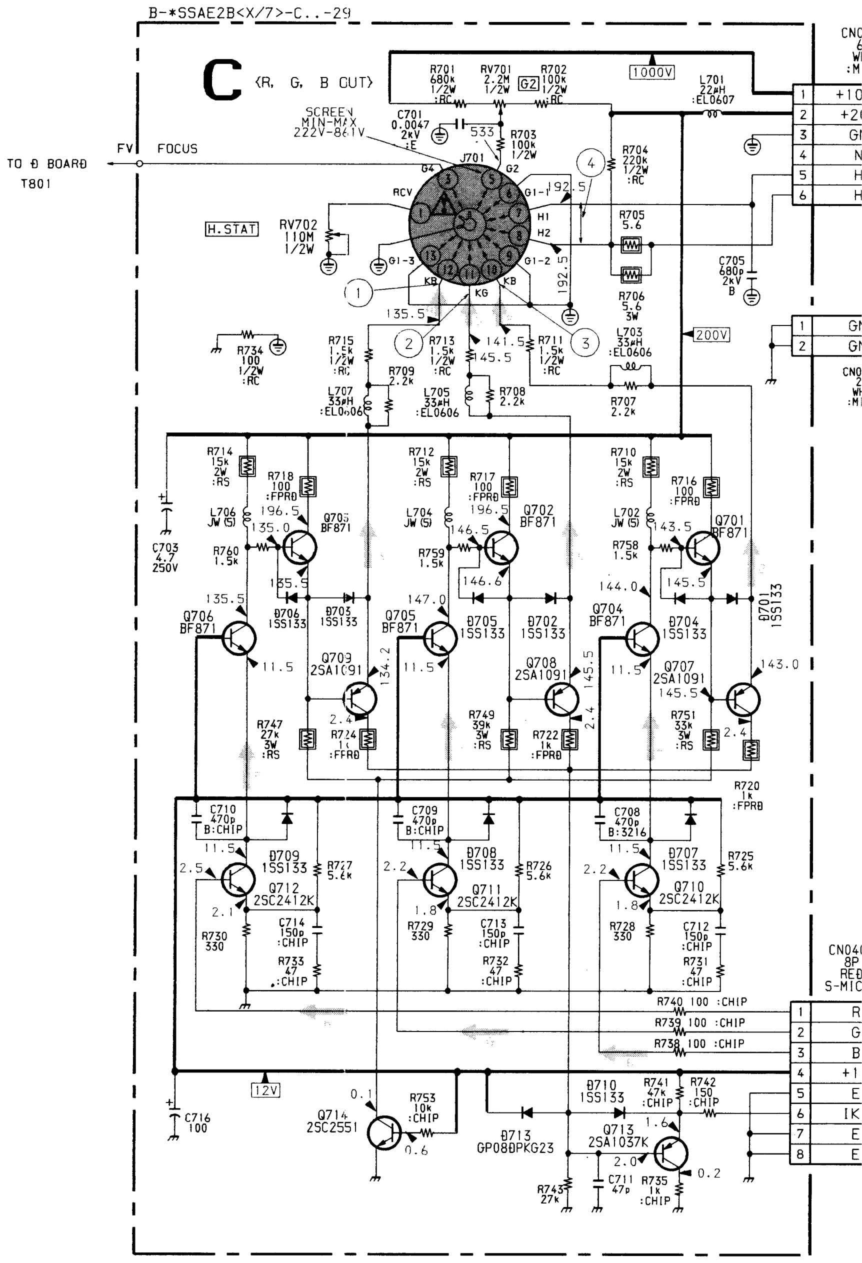
B-SS4536<AEP>-A1.

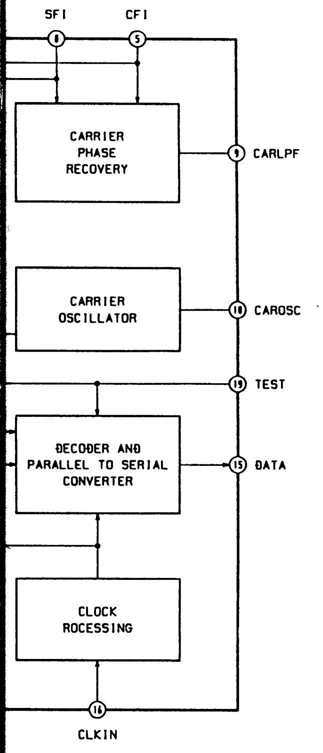
A1 BOARD * MARK

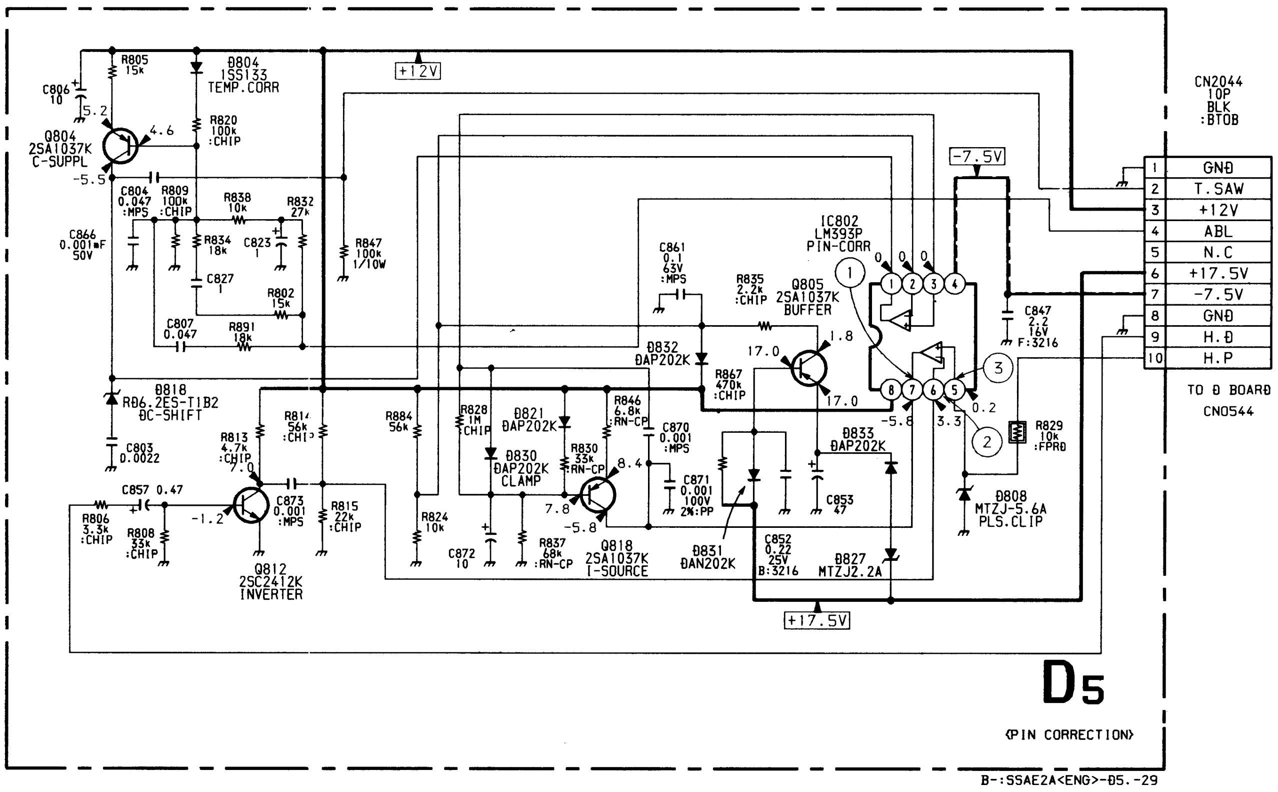
Model	KV-X2973E	KV-X2972U
BP1101	5.850MHz	6.552MHz
C1159	-	47P
CF1101	-	6.0MHz
CF1102	5.5MHz	-
JR1101	0 : CHIP	-
L1105	-	15MMh
X1102	11.700MHz	13.104MHz

• A1 BOARD IC1101 TD

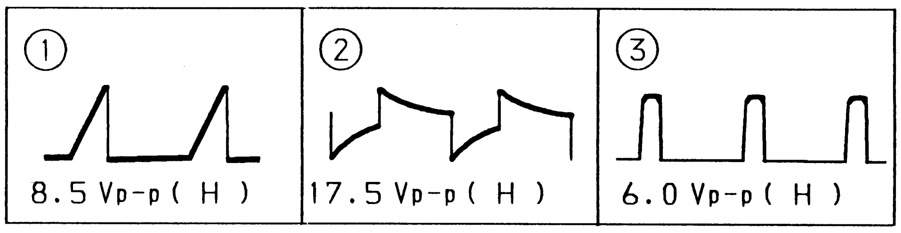

VEEA
VCCA
CFO
QPSKIN
LIMITER
COST
QUA
DEMO
IMC
QMC
CLKLPF
CLKOSC
CLOCK OSCILLATOR
VEED
VCCD

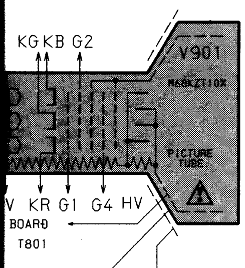

B-*SSAE2B<X/7>-C..-29
C (R, G, B CUT)
SCREEN MIN-MAX 222V-841V
FOCUS
TO D BOARD T801
H.STAT
RV702 110M 1/2W
1000V
200V
12V
L701 22μH :EL0607
J701
Q701 BF871
Q702 BF871
Q703 2SA1091
Q704 BF871
Q705 BF871
Q706 BF871
Q707 2SA1091
Q708 2SA1091
Q709 1SS133
Q710 2SC2412K
Q711 2SC2412K
Q712 2SC2412K
Q713 2SA1037K
Q714 2SC2551
D713 GP08DPKG23
CN04
8P
RED
S-MIC

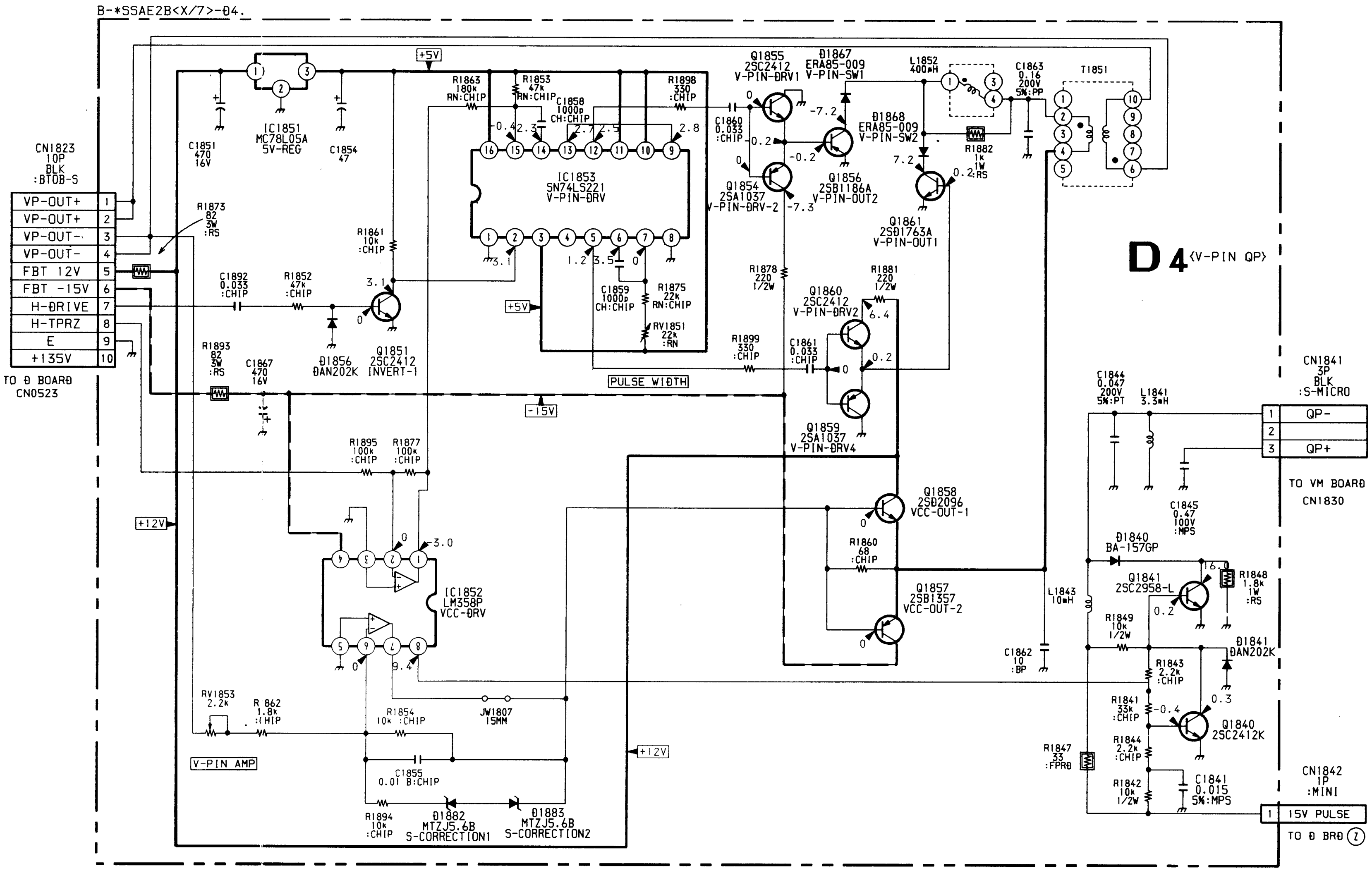

SFI
CFI
CARRIER PHASE RECOVERY
CARLPF
CARRIER OSCILLATOR
CAROSC
TEST
DECODER AND PARALLEL TO SERIAL CONVERTER
DATA
CLOCK ROCESSING
CLKIN


R805 15k
D804 1SS133 TEMP.CORR
+12V
C806 10
5.2
Q804 2SA1037K C-SUPPL
4.6
R820 100k :CHIP
-5.5
C804 0.047 :MPS
R809 100k :CHIP
R838 10k
R832 27k
C866 0.001mF 50V
R834 18k
C823 1
R847 100k 1/10W
C827 1
R802 15k
C807 0.047
R891 18k
D818 RD6.2ES-T1B2 DC-SHIFT
C803 0.0022
R813 4.7k :CHIP
7.0
R814 56k :CHIP
C857 0.47
R806 3.3k :CHIP
R808 33k :CHIP
-1.2
C873 0.001 :MPS
R815 22k :CHIP
Q812 2SC2412K INVERTER
R884 56k
R824 10k
R828 1M CHIP
D821 DAP202K
D830 DAP202K CLAMP
C872 10
R837 68k :RN-CP
R830 33k :RN-CP
R846 6.8k :RN-CP
7.8
8.4
-5.8
Q818 2SA1037K I-SOURCE
C870 0.001 :MPS
C871 0.001 100V 2%:PP
D831 DAN202K
C852 0.22 25V B:3216
C861 0.1 63V :MPS
D832 DAP202K
R835 2.2k :CHIP
Q805 2SA1037K BUFFER
R867 470k :CHIP
17.0
1.8
17.0
C853 47
D833 DAP202K
D827 MTZJ2.2A
+17.5V
IC802 LM393P PIN-CORR
①
②
③
0 0 0
-5.8
3.3
0.2
-7.5V
C847 2.2 16V F:3216
R829 10k :FPRD
D808 MTZJ-5.6A PLS.CLIP
CN2044 10P BLK :BTOB
1 GND
2 T.SAW
3 +12V
4 ABL
5 N.C
6 +17.5V
7 -7.5V
8 GND
9 H.D
10 H.P
TO D BOARD CN0544
D5
⟨PIN CORRECTION⟩
B-:SSAE2A<ENG>-D5.-29

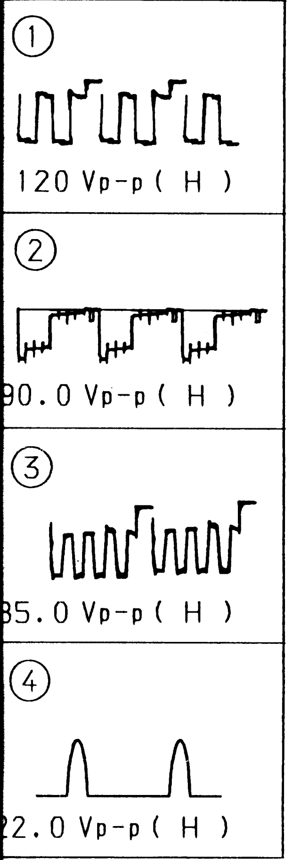
• WAVEFORMS D5 BOARD




KG KB G2
V901
PICTURE TUBE
V KR G1 G4 HV
BOARD
T801

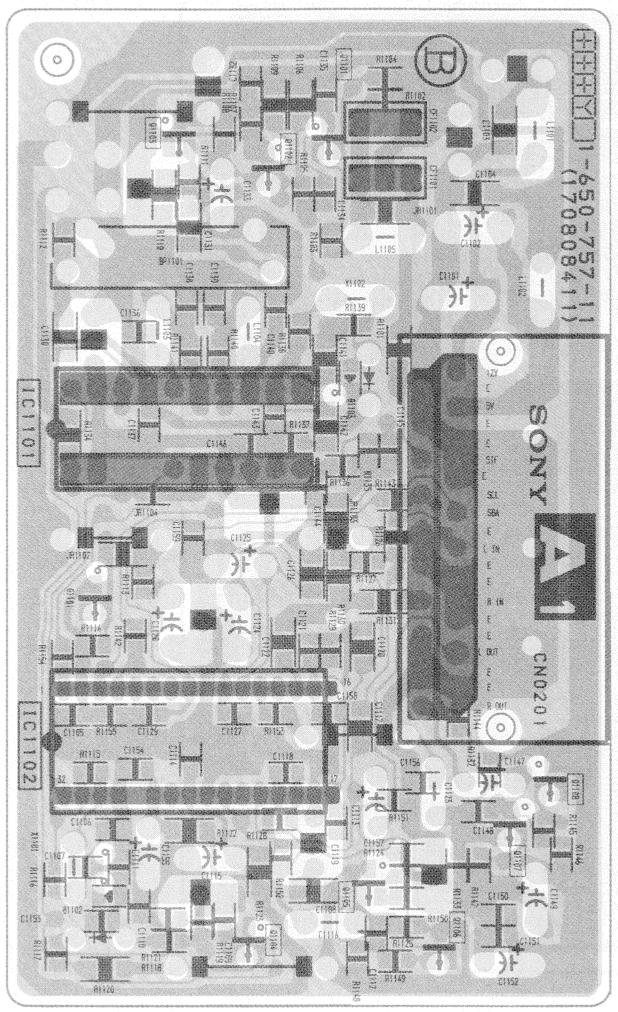

B-*SSAE2B<X/7>-D4.
CN1823 10P BLK :BTOB-S
1 VP-OUT+
2 VP-OUT+
3 VP-OUT-
4 VP-OUT-
5 FBT 12V
6 FBT -15V
7 H-DRIVE
8 H-TPRZ
9 E
10 +135V
TO D BOARD CN0523
R1873 82 3W :RS
C1851 470 16V
IC1851 MC78L05A 5V-REG
C1854 47
+5V
R1861 10k :CHIP
C1892 0.033 :CHIP
R1852 47k :CHIP
3.1
0
D1856 DAN202K
Q1851 2SC2412 INVERT-1
R1893 82 3W :RS
C1867 470 16V
R1863 180k RN:CHIP
R1853 47k RN:CHIP
C1858 1000p CH:CHIP
R1898 330 :CHIP
-0.4 2.3 2.7 2.5 2.8
IC1853 SN74LS221 V-PIN-DRV
3.1 1.2 3.5 0
C1859 1000p CH:CHIP
R1875 22k RN:CHIP
RV1851 22k :RN
PULSE WIDTH
-15V
R1895 100k :CHIP
R1877 100k :CHIP
+12V
0
-3.0
IC1852 LM358P VCC-DRV
0
9.4
RV1853 2.2k
R 862 1.8k :CHIP
V-PIN AMP
R1854 10k :CHIP
JW1807 15MM
C1855 0.01 B:CHIP
R1894 10k :CHIP
D1882 MTZJ5.6B S-CORRECTION1
D1883 MTZJ5.6B S-CORRECTION2
C1860 0.033 :CHIP
Q1855 2SC2412 V-PIN-DRV1
D1867 ERA85-009 V-PIN-SW1
0
-7.2
0.2
-0.2
Q1854 2SA1037 V-PIN-DRV-2
-7.3
Q1856 2SB1186A V-PIN-OUT2
D1868 ERA85-009 V-PIN-SW2
L1852 400μH
R1882 1k 1W :RS
7.2
0.2
Q1861 2SD1763A V-PIN-OUT1
C1863 0.16 200V 5%:PP
T1851
R1878 220 1/2W
R1881 220 1/2W
Q1860 2SC2412 V-PIN-DRV2
6.4
R1899 330 :CHIP
C1861 0.033 :CHIP
0
0.2
Q1859 2SA1037 V-PIN-DRV4
Q1858 2SD2096 VCC-OUT-1
0
R1860 68 :CHIP
Q1857 2SB1357 VCC-OUT-2
0
L1843 10mH
C1862 10 :BP
D4 ⟨V-PIN QP⟩
C1844 0.047 200V 5%:PT
L1841 3.3mH
C1845 0.47 100V :MPS
CN1841 3P BLK :S-MICRO
1 QP-
2
3 QP+
TO VM BOARD CN1830
D1840 BA-157GP
16.0
Q1841 2SC2958-L
R1848 1.8k 1W :RS
0.2
R1849 10k 1/2W
D1841 DAN202K
R1843 2.2k :CHIP
0.3
R1841 33k :CHIP
-0.4
Q1840 2SC2412K
R1847 33 :FPRD
R1844 2.2k :CHIP
R1842 10k 1/2W
C1841 0.015 5%:MPS
CN1842 1P :MINI
1 15V PULSE
TO D BRD ⓩ

WAVEFORMS C BOARD



A1 [NICAM DECODER, NICAM DEMODULATOR] **C** [R.G.B OUT] **D5** [PIN CORRECTION] **VM** [VM AMP] **D4** [V – PIN Q P]

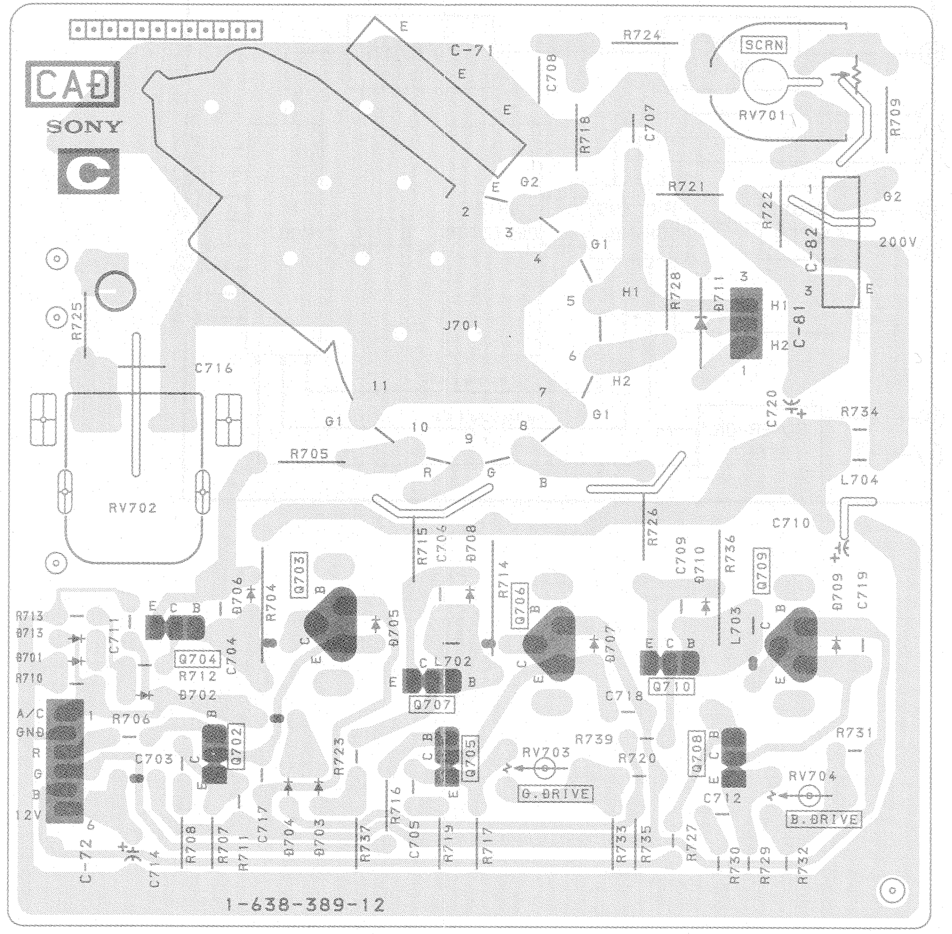
– A1 BOARD – (Spanish, UK Model only)


1-650-757-11
(17080841 1)
SONY
A1
IC1101
IC1102
CN0201

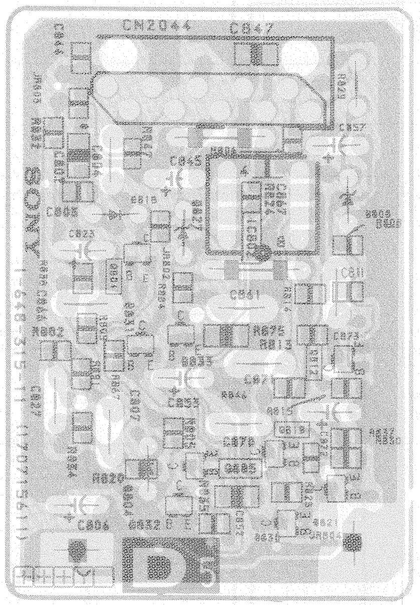
Note :

- ▒ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

– C BOARD –


CAD
SONY
C
J701
SCRN
RV701
RV702
RV703
RV704
G.DRIVE
B.DRIVE
200V
A/C
GND
R
G
B
12V
C-71
C-72
C-81
C-82
1-638-389-12

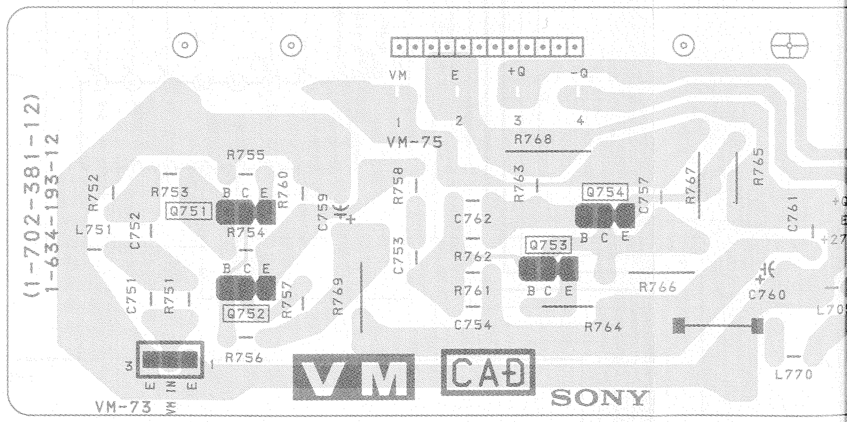
– D5 BOARD –


CN2044
SONY
D5

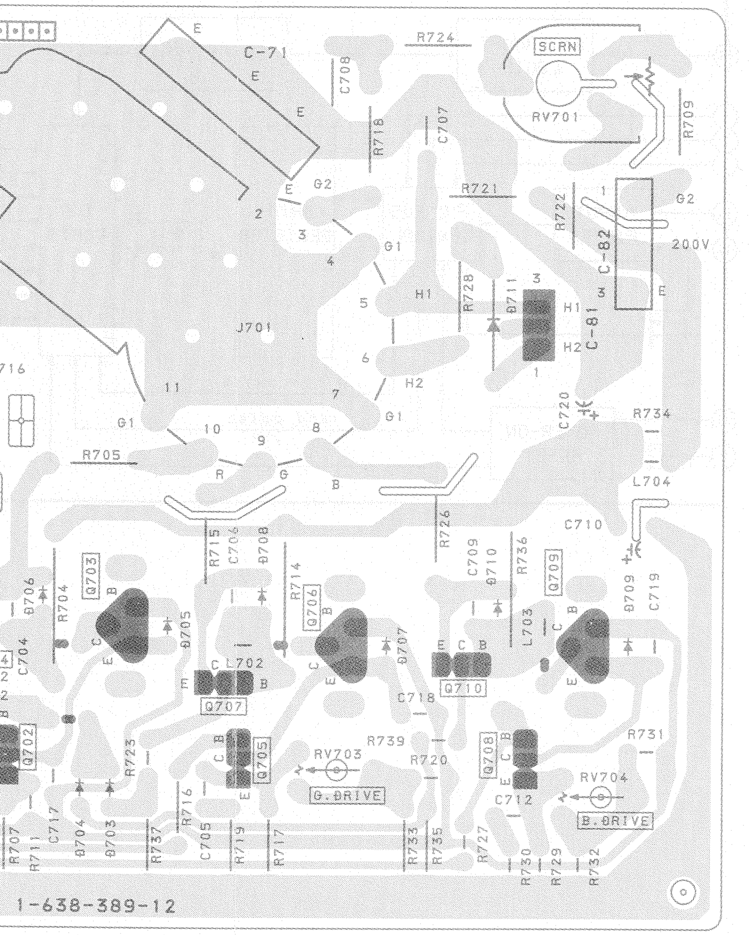
Note :

- ▒ : Pattern from the side which enables seeing.
- ▒ : Pattern of the rear side.

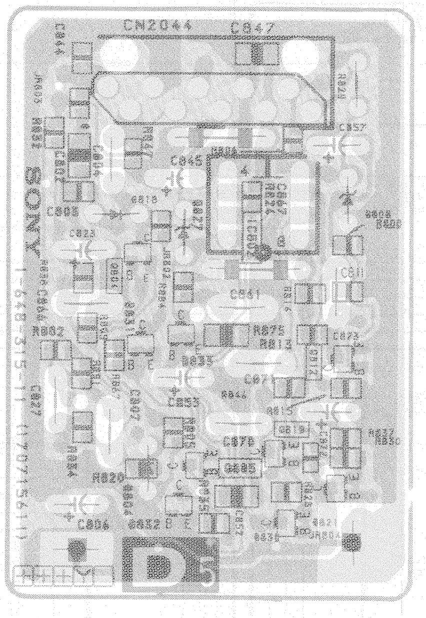
– VM BOARD –


VM
E
+Q
-Q
VM-75
(1-702-381-12)
1-634-193-12
VM-73
VM
CAD
SONY

VM [VM AMP] D4 [V－PIN Q P]


SCRN
RV701
J701
G. DRIVE
B. DRIVE
RV703
RV704
200V
1-638-389-12

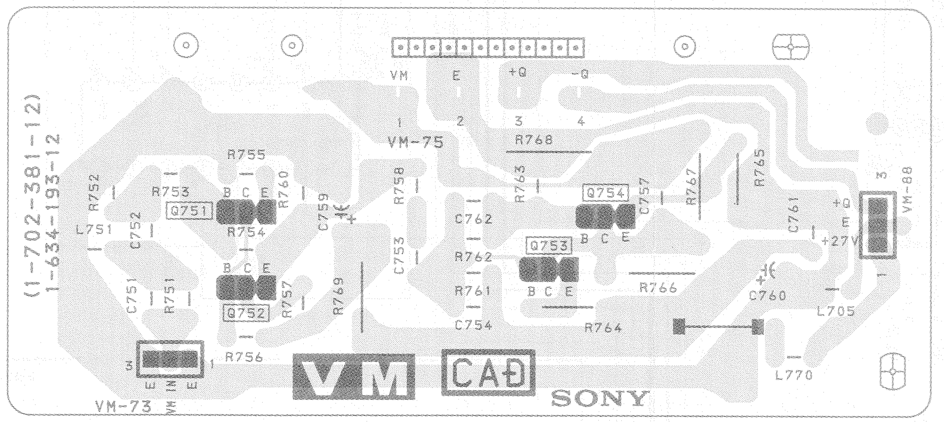
– D5 BOARD –


CN2044
C847
SONY
1-648-315-11 (1707156(1))
D5

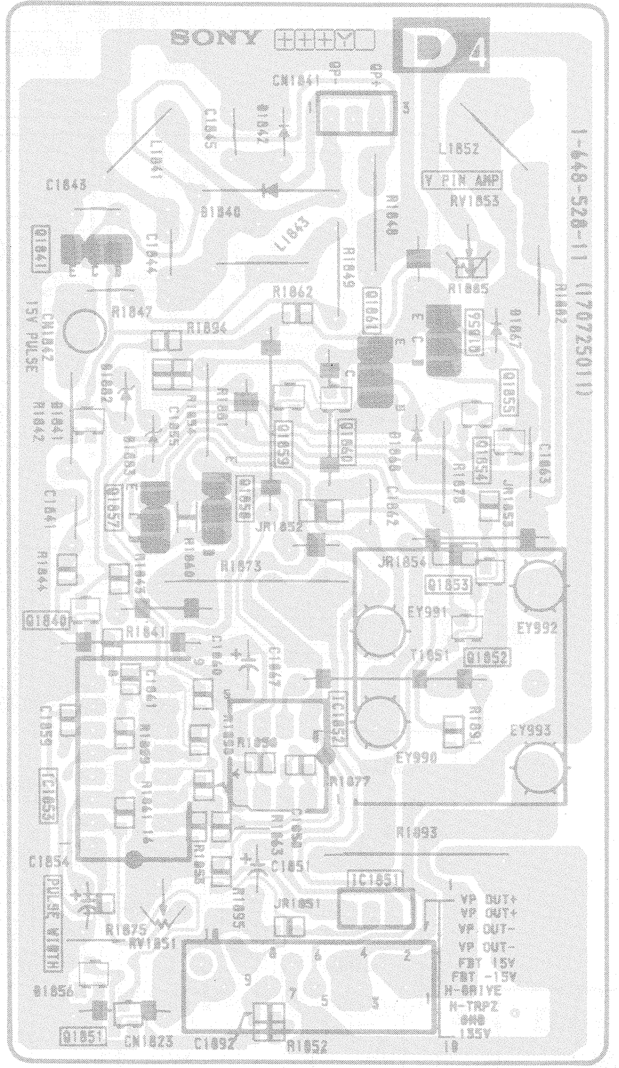
Note :

- ▨ : Pattern from the side which enables seeing.
- ░ : Pattern of the rear side.

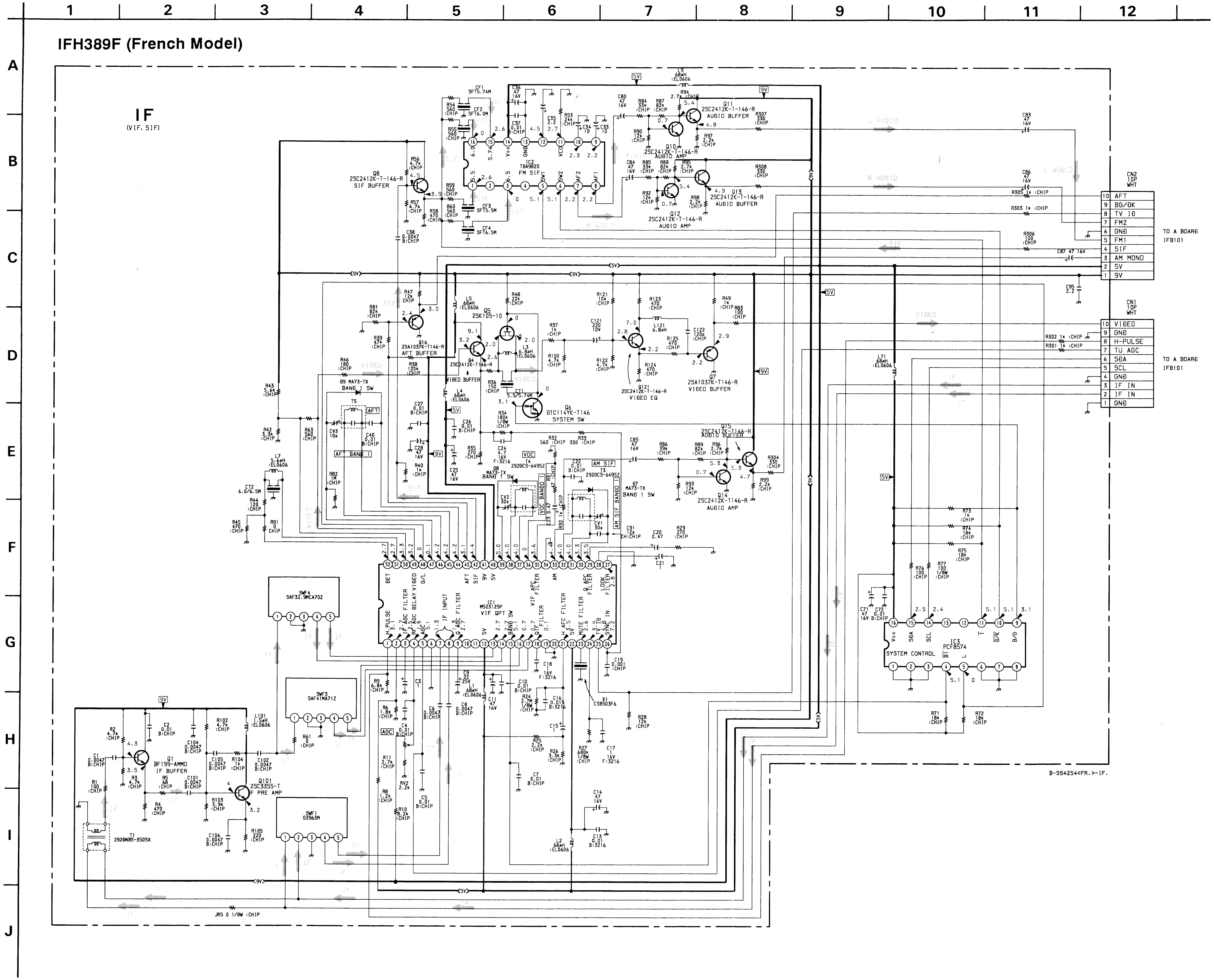
– VM BOARD –


(1-702-381-12)
1-634-193-12
VM-75
VM-73
VM-88
VM
CAD
SONY

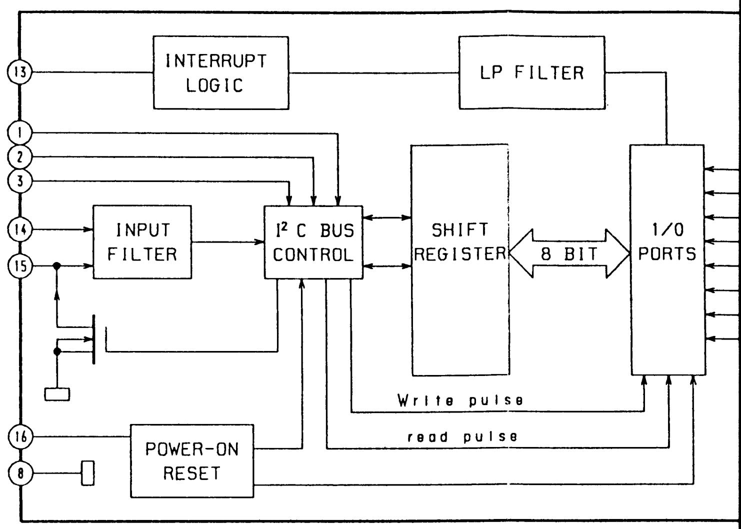
– D4 BOARD –

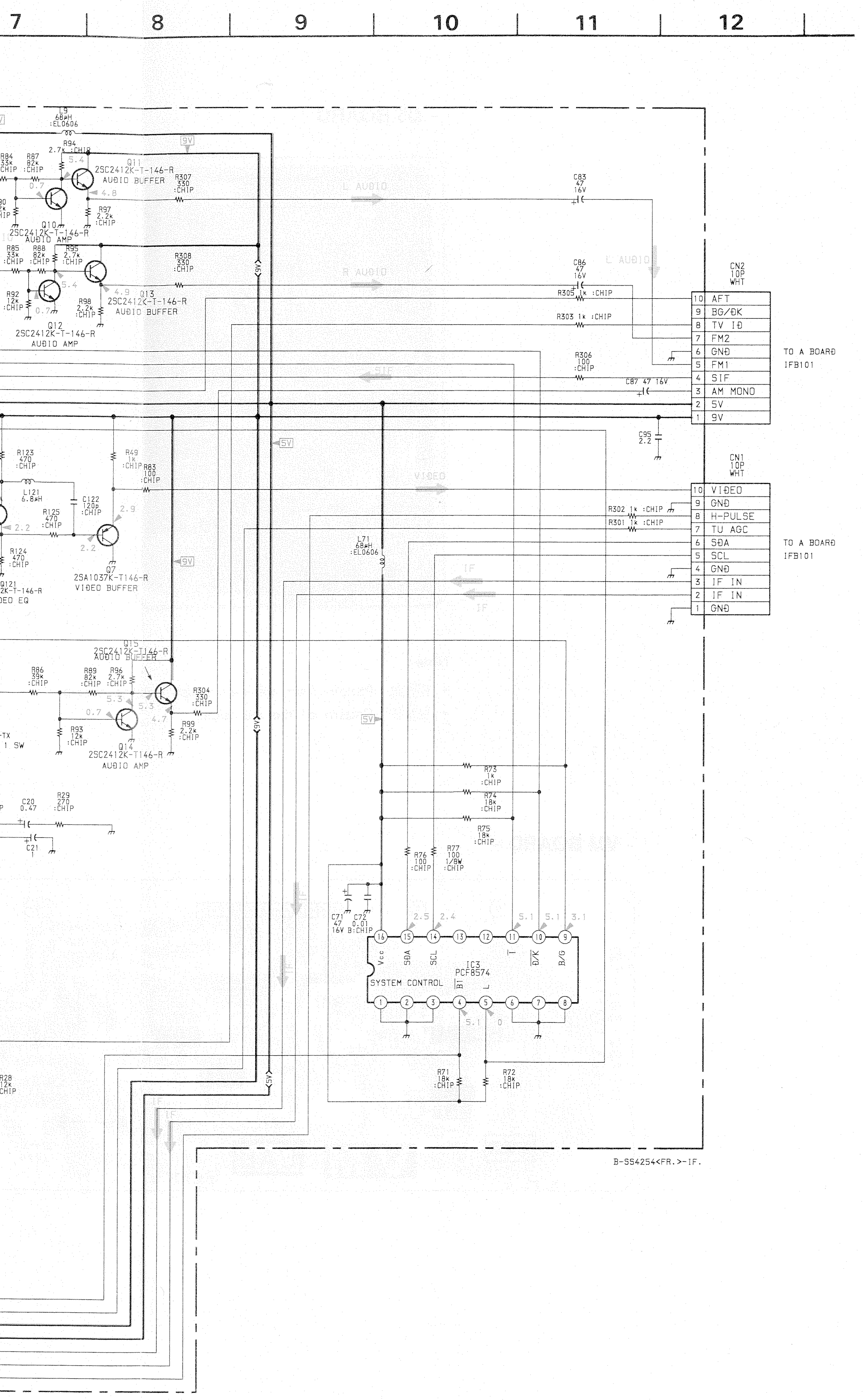

SONY
D4
1-648-528-11 (1707250(1))
V PIN AMP
RV1853
15V PULSE
PULSE WIDTH
RV1851
VP OUT+
VP OUT+
VP OUT-
VP OUT-
FBT 15V
FBT -15V
H-DRIVE
H-TRPZ
GND
135V

IFH389F (French Model)


1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
IF
(VIF, SIF)
IC1
M52312SP
VIF OPT
IC2
TDA9820
FM SIF
IC3
PCF8574
SYSTEM CONTROL
Q1
BF199-AMMO
IF BUFFER
Q101
2SC3355-T
IF PRE AMP
Q8
2SC2412K-T-146-R
SIF BUFFER
Q16
2SA1037K-T-146-R
AFT BUFFER
Q5
2SK105-10
Q4
2SC2412K-T-146-R
VIDEO BUFFER
Q6
DTC114YK-T146
SYSTEM SW
Q121
2SC2412K-T-146-R
VIDEO EQ
Q7
2SA1037K-T146-R
VIDEO BUFFER
Q10
2SC2412K-T-146-R
AUDIO AMP
Q11
2SC2412K-T-146-R
AUDIO BUFFER
Q12
2SC2412K-T-146-R
AUDIO AMP
Q13
2SC2412K-T-146-R
AUDIO BUFFER
Q14
2SC2412K-T-146-R
AUDIO AMP
Q15
2SC2412K-T-146-R
AUDIO BUFFER
SWF1
G3963M
SWF3
SAF41MA71Z
SWF4
SAF32.9MCA70Z
T1
2920NBS-3505X
X1
CSB503F6
CN2
10P
WHT
10 AFT
9 BG/DK
8 TV ID
7 FM2
6 GND
5 FM1
4 SIF
3 AM MONO
2 5V
1 9V
TO A BOARD
IFB101
CN1
10P
WHT
10 VIDEO
9 GND
8 H-PULSE
7 TU AGC
6 SDA
5 SCL
4 GND
3 IF IN
2 IF IN
1 GND
TO A BOARD
IFB101
5V
9V
AFT
BAND 1
AGC
VDC
AM SIF
JR5 0 1/8W :CHIP
B-SS4254<FR.>-IF.

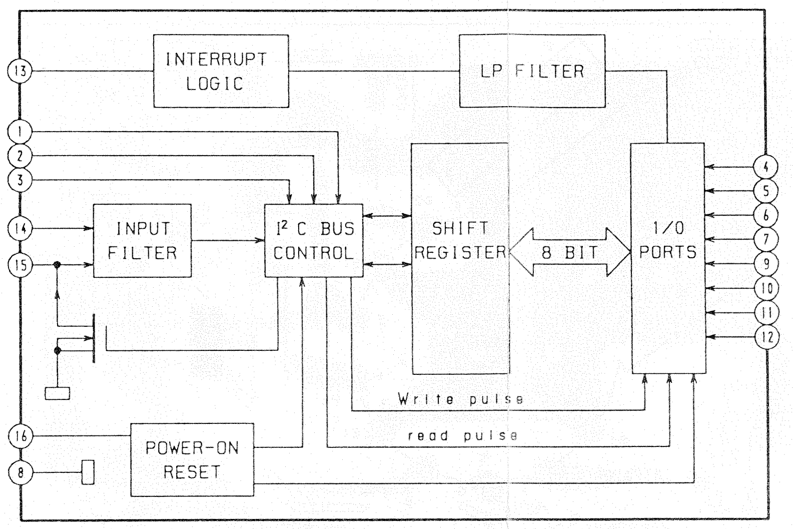
• IF BOARD IC3 PC8574 (French Model)


13
1
2
3
14
15
16
8
INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I² C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse

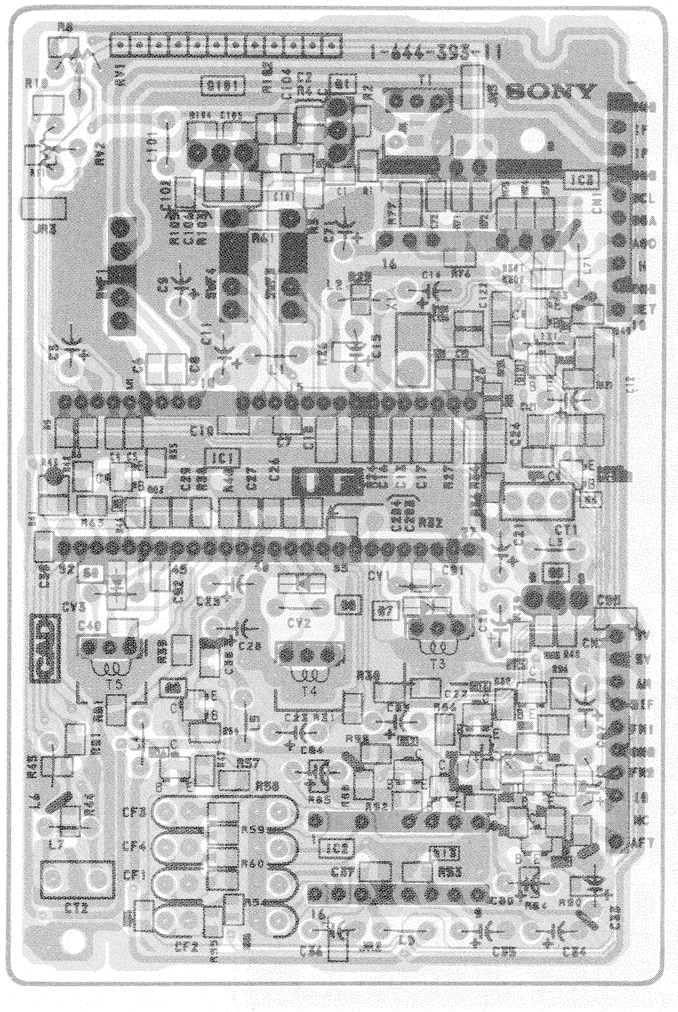

7
8
9
10
11
12
AUDIO BUFFER
AUDIO AMP
VIDEO BUFFER
CN2
10P
WHT
10 AFT
9 BG/DK
8 TV ID
7 FM2
6 GND
5 FM1
4 SIF
3 AM MONO
2 5V
1 9V
TO A BOARD IFB101
CN1
10P
WHT
10 VIDEO
9 GND
8 H-PULSE
7 TU AGC
6 SDA
5 SCL
4 GND
3 IF IN
2 IF IN
1 GND
TO A BOARD IFB101
IC3
PCF8574
SYSTEM CONTROL
Vcc
SDA
SCL
B/K
B/G
L AUDIO
R AUDIO
VIDEO
SIF
IF
5V
9V
B-SS4254<FR.>-IF.

IF [VIF, SIF]

• IF BOARD IC3 PC8574 (French Model)


INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I²C BUS CONTROL
SHIFT REGISTER
8 BIT
I/O PORTS
POWER-ON RESET
Write pulse
read pulse
13
1
2
3
14
15
16
8
4
5
6
7
9
10
11
12

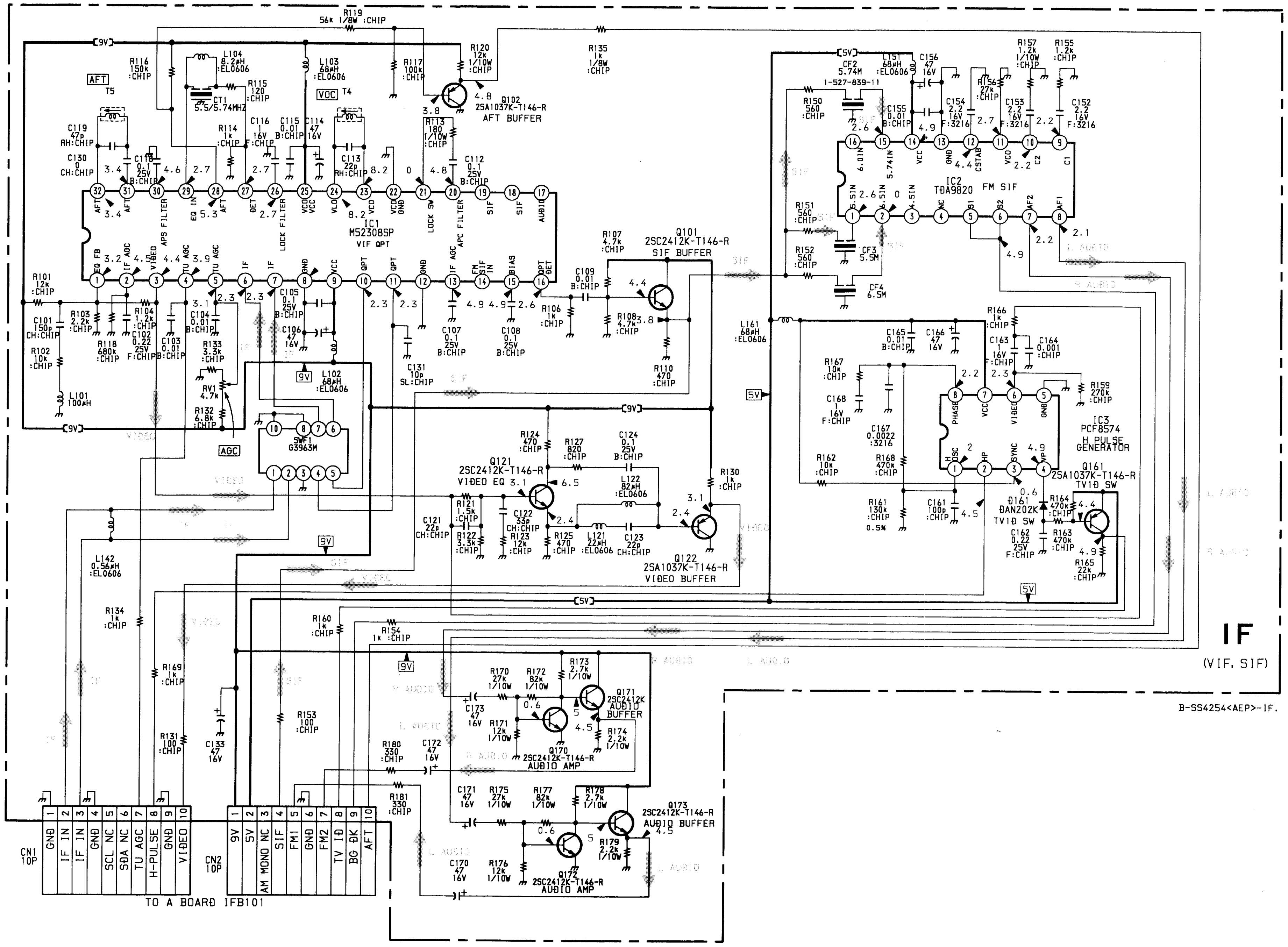
– IF BOARD – (French Model)


1-646-393-11
SONY
IC1
IC2
IC3
T1
T3
T4
T5
CV1
CV2
CV3
CF1
CF2
CF3
CF4
5V
9V
AM
SIF
FM1
GND
FM2
ID
BK
AFT

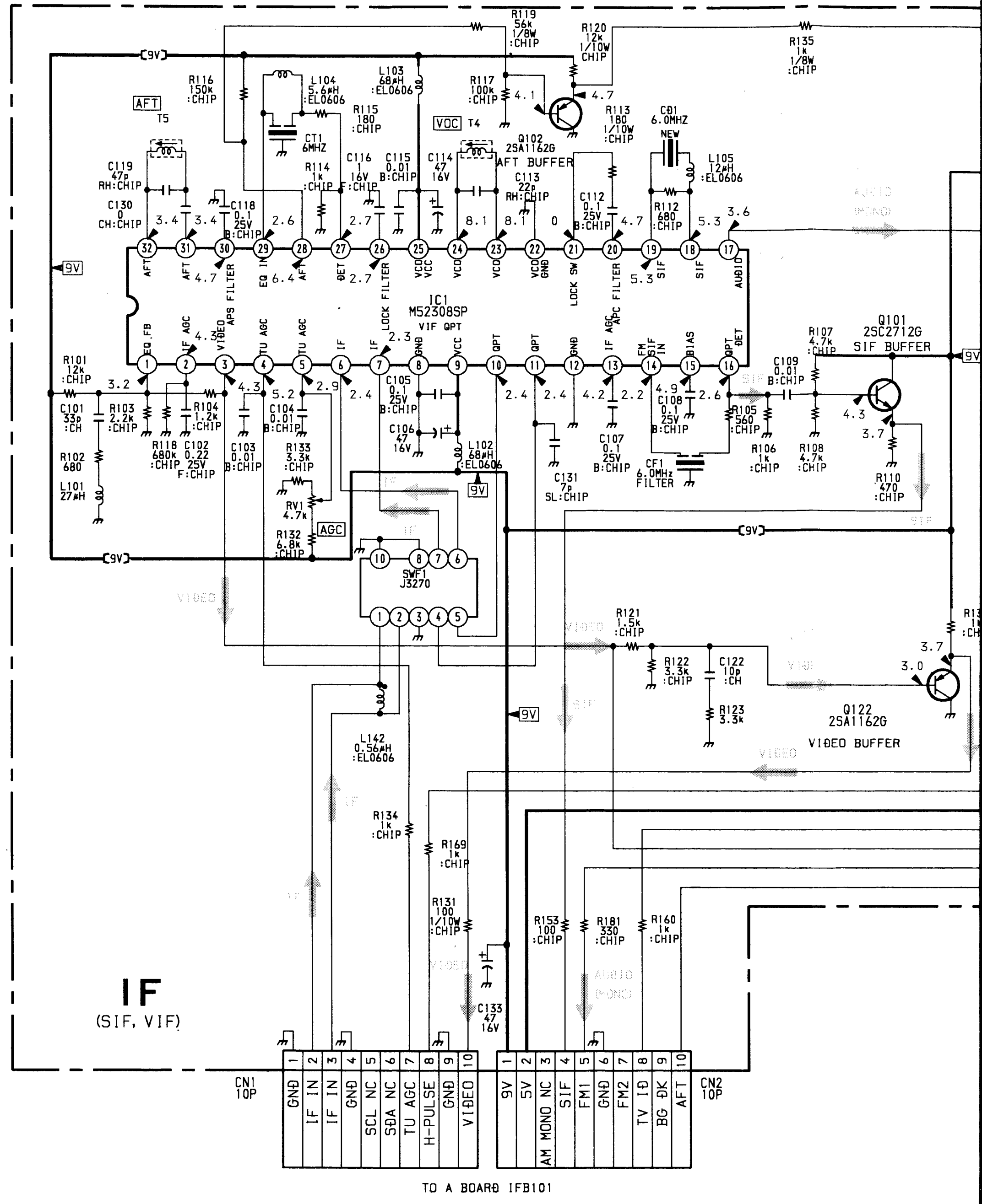
Note :

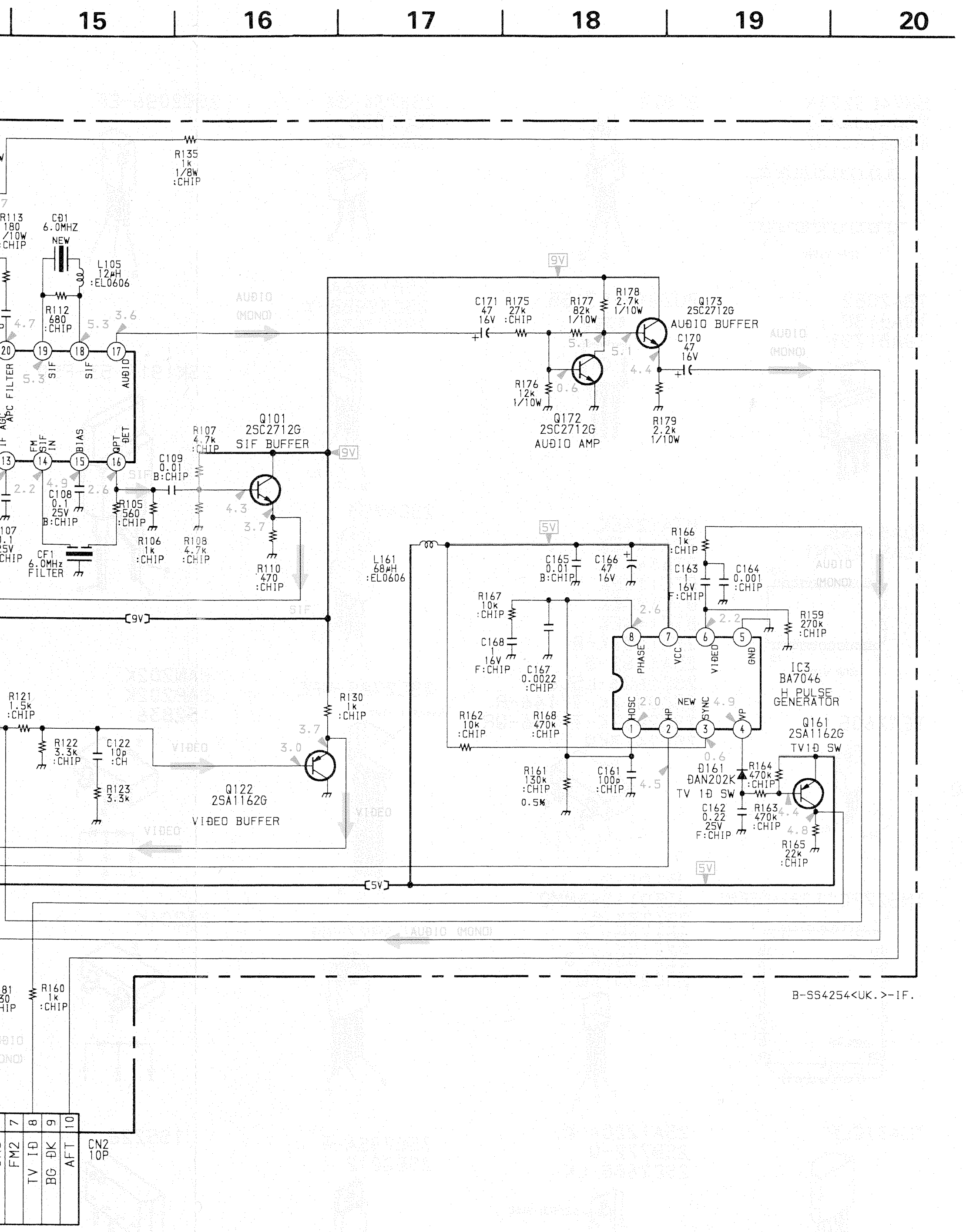
- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

IFH389 (AEP, Italian, Spanish Model)


IC1 M52308SP VIF QPT
IC2 TDA9820 FM SIF
IC3 PCF8574 H.PULSE GENERATOR
Q101 2SC2412K-T146-R SIF BUFFER
Q102 2SA1037K-T146-R AFT BUFFER
Q121 2SC2412K-T146-R VIDEO EQ
Q122 2SA1037K-T146-R VIDEO BUFFER
Q161 2SA1037K-T146-R TV1D SW
D161 DAN202K TV1D SW
Q170 2SC2412K-T146-R AUDIO AMP
Q171 2SC2412K AUDIO BUFFER
Q172 2SC2412K-T146-R AUDIO AMP
Q173 2SC2412K-T146-R AUDIO BUFFER
SWF1 G3963M
T5 AFT
T4 VOC
CT1 5.5/5.74MHZ
CF2 5.74M
CF3 5.5M
CF4 6.5M
RV1 4.7k AGC
9V
5V
IF
(VIF, SIF)
CN1 10P
GND
IF IN
IF IN
GND
SCL NC
SDA NC
TU AGC
H-PULSE
GND
VIDEO
CN2 10P
9V
5V
AM MONO NC
SIF
FM1
GND
FM2
TV ID
BG DK
AFT
TO A BOARD IFB101
B-SS4254<AEP>-IF.

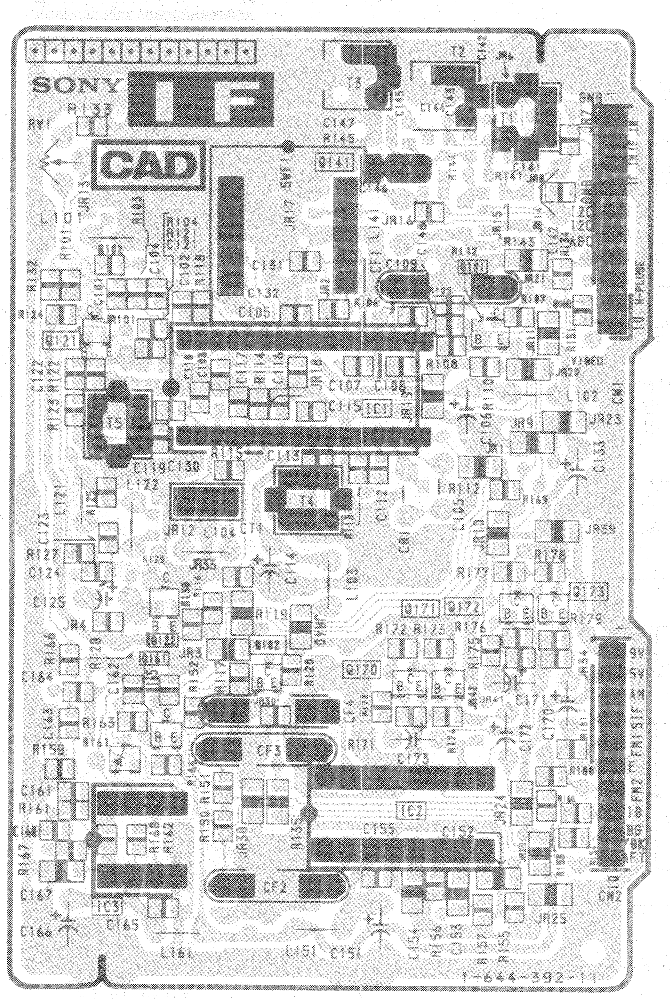
IFH385 (UK Model)


IC1 M52308SP VIF QPT
Q101 2SC2712G SIF BUFFER
Q102 2SA1162G AFT BUFFER
Q122 2SA1162G VIDEO BUFFER
SWF1 J3270
CF1 6.0MHz FILTER
CB1 6.0MHZ NEW
T5 AFT
T4 VOC
RV1 4.7k AGC
9V
IF
(SIF, VIF)
CN1 10P
GND
IF IN
IF IN
GND
SCL NC
SDA NC
TU AGC
H-PULSE
GND
VIDEO
CN2 10P
9V
5V
AM MONO NC
SIF
FM1
GND
FM2
TV ID
BG DK
AFT
TO A BOARD IFB101

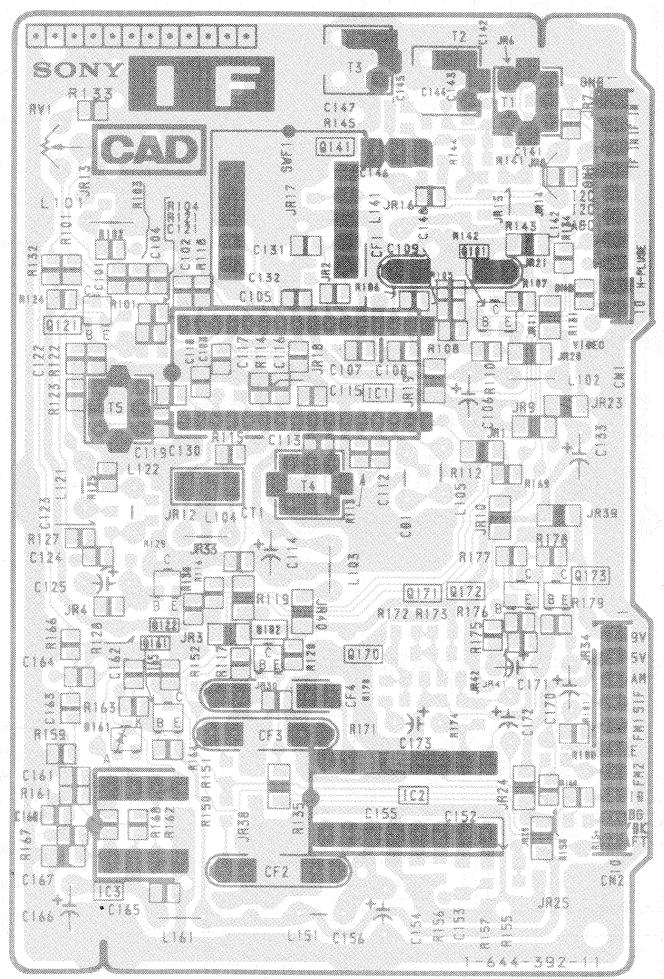

15
16
17
18
19
20
R135 1k 1/8W :CHIP
CB1 6.0MHz
L105 12μH :EL0606
Q173 2SC2712G AUDIO BUFFER
Q172 2SC2712G AUDIO AMP
Q101 2SC2712G SIF BUFFER
C170 47 16V
R179 2.2k 1/10W
R176 12k 1/10W
R107 4.7k :CHIP
R110 470 :CHIP
L161 68μH :EL0606
IC3 BA7046 H PULSE GENERATOR
Q161 2SA1162G TV1Ð SW
Ð161 ÐAN202K :CHIP
Q122 2SA1162G VIDEO BUFFER
R130 1k :CHIP
R121 1.5k :CHIP
R122 3.3k :CHIP
C122 10p :CH
R123 3.3k
R160 1k :CHIP
CN2 10P
FM2
TV 1Ð
BG
ÐK
AFT
VIDEO
AUDIO (MONO)
9V
5V
B-SS4254<UK.>-IF.

IF [VIF, SIF]

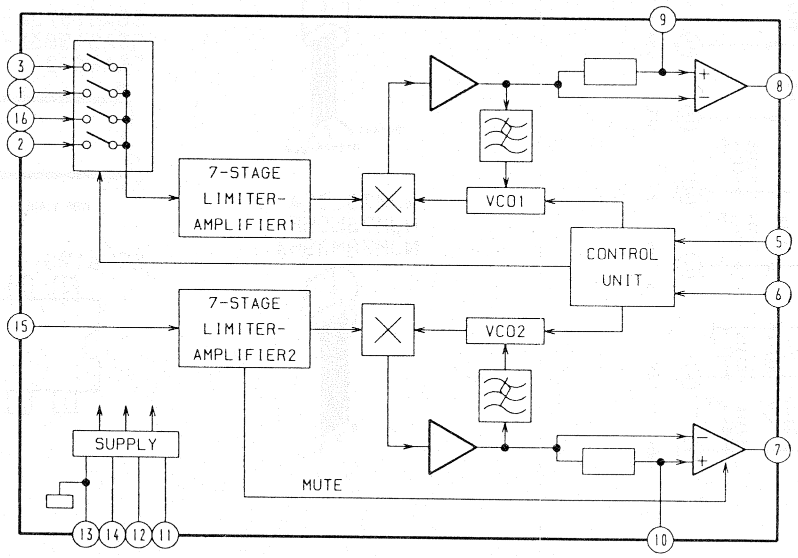
– IF BOARD – (AEP, Italian, Spanish Model)


SONY
IF
CAD
1-644-392-11

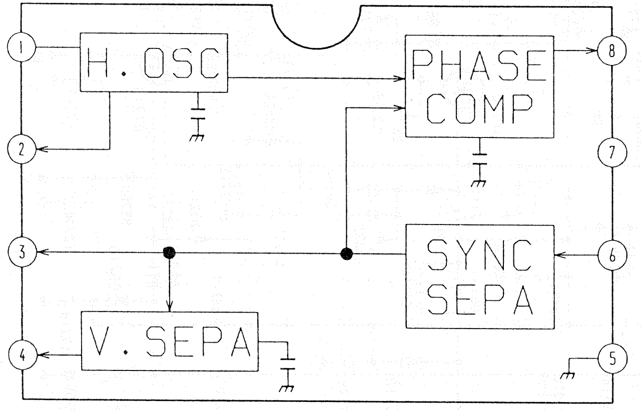
– IF BOARD – (UK Model)


SONY
IF
CAD
1-644-392-11

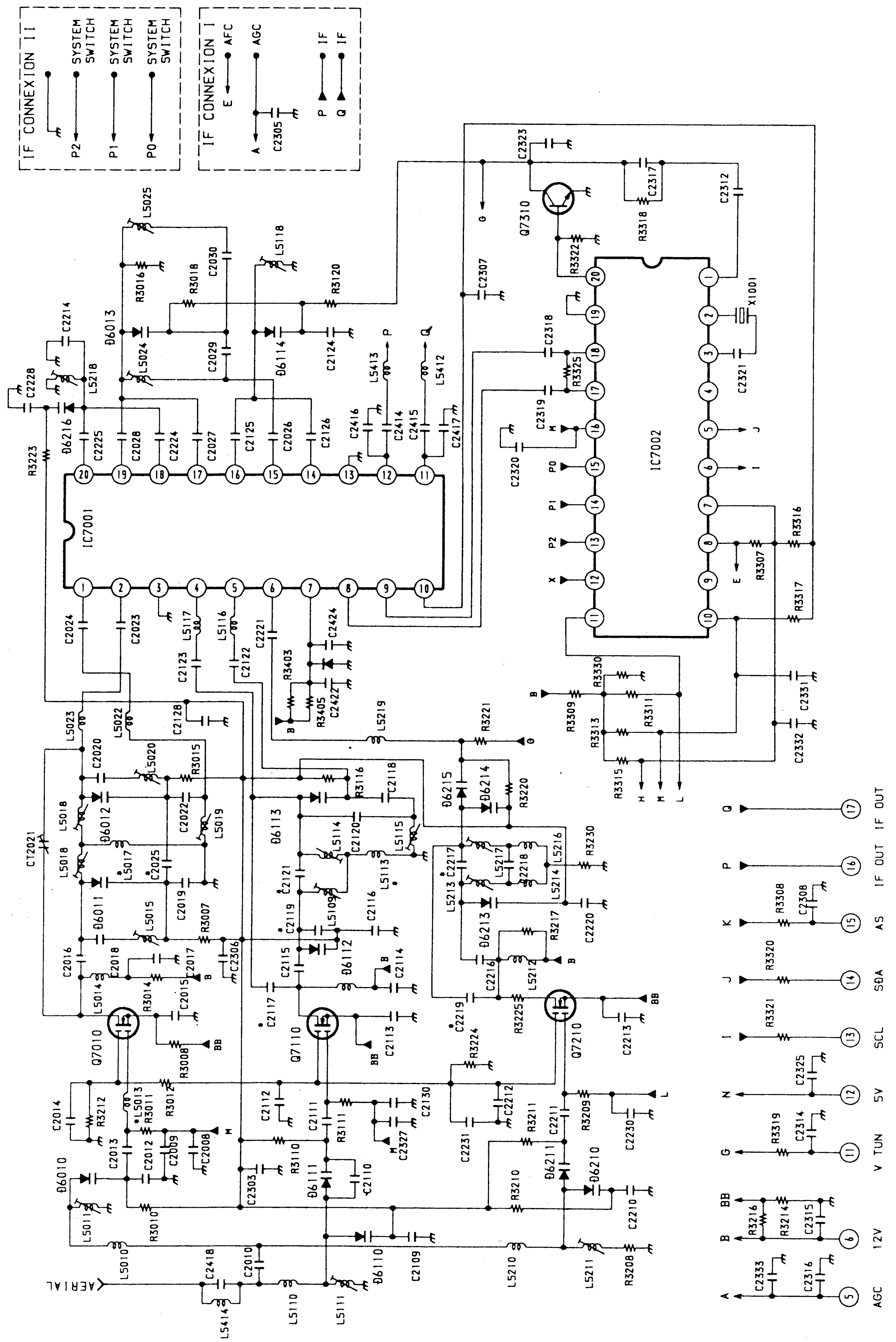
• IF BOARD IC2 TDA9820 (AEP, Italian, Spanish Model)


3
1
16
2
7-STAGE LIMITER-AMPLIFIER1
VCO1
CONTROL UNIT
7-STAGE LIMITER-AMPLIFIER2
VCO2
SUPPLY
MUTE
15
9
8
5
6
7
10
13
14
12
11

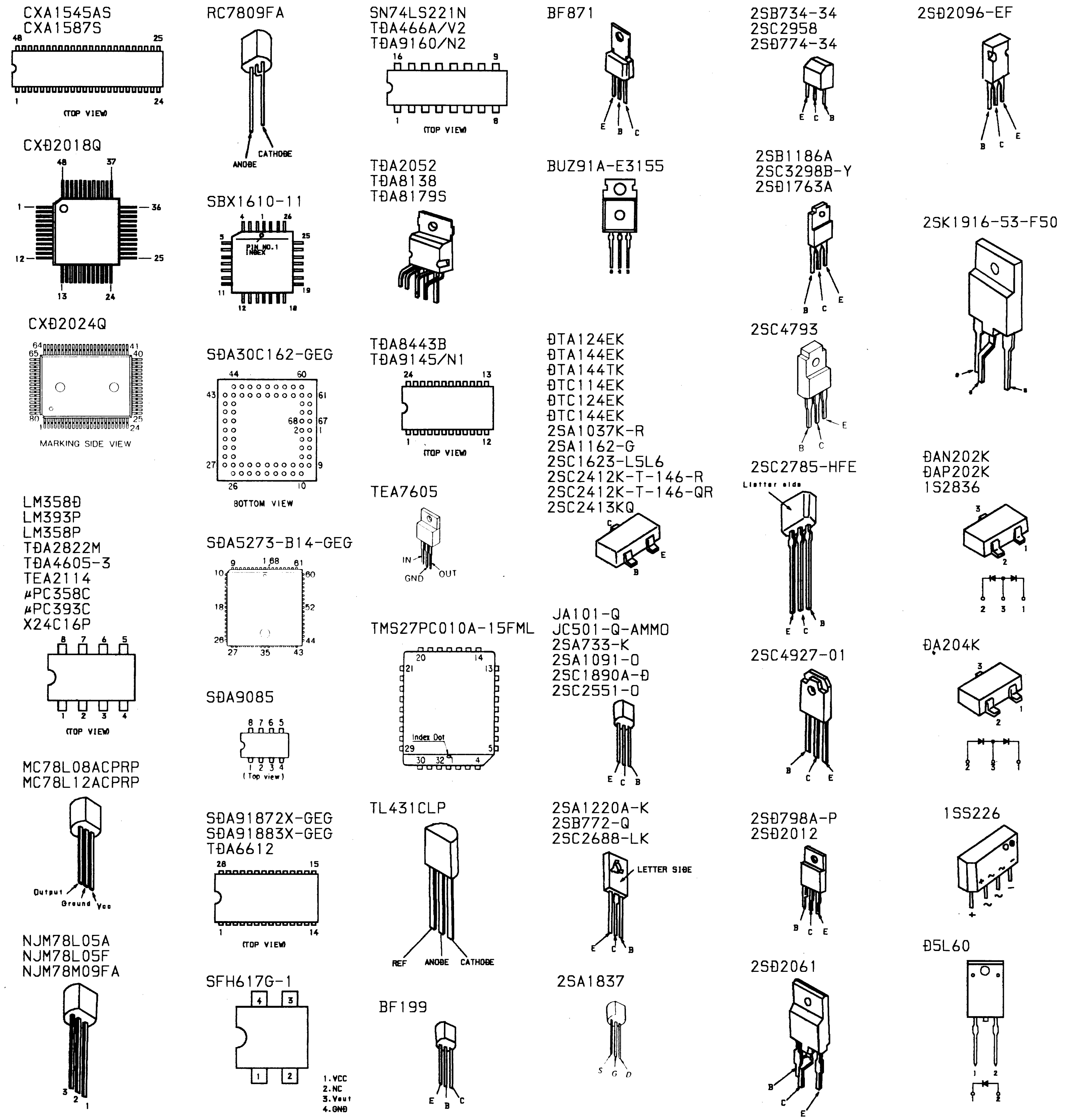
• IF BOARD IC3 BA7046 (AEP, Italian, Spanish Model)


H.OSC
PHASE COMP
SYNC SEPA
V.SEPA
1
2
3
4
5
6
7
8

5-4. SCHEMATIC DIAGRAM OF TUNER A BOARD TU101 UV916H

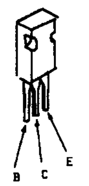

IF CONNEXION II
SYSTEM SWITCH
P2
P1
P0
IF CONNEXION I
AFC
AGC
IF
E
A
P
Q
IC7001
IC7002
Q7010
Q7110
Q7210
Q7310
X1001
AERIAL
AGC
12V
V TUN
5V
SCL
SDA
AS
IF OUT
IF OUT

5-5. SEMICONDUCTORS

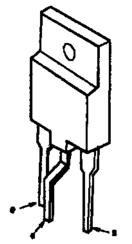

CXA1545AS
CXA1587S
(TOP VIEW)
CXD2018Q
CXD2024Q
MARKING SIDE VIEW
LM358D
LM393P
LM358P
TDA2822M
TDA4605-3
TEA2114
μPC358C
μPC393C
X24C16P
(TOP VIEW)
MC78L08ACPRP
MC78L12ACPRP
Output
Ground
Vcc
NJM78L05A
NJM78L05F
NJM78M09FA
RC7809FA
ANODE
CATHODE
SBX1610-11
PIN NO.1 INDEX
SDA30C162-GEG
BOTTOM VIEW
SDA5273-B14-GEG
SDA9085
(Top view)
SDA91872X-GEG
SDA91883X-GEG
TDA6612
(TOP VIEW)
SFH617G-1
1.VCC
2.NC
3.Vout
4.GND
SN74LS221N
TDA466A/V2
TDA9160/N2
(TOP VIEW)
TDA2052
TDA8138
TDA8179S
TDA8443B
TDA9145/N1
(TOP VIEW)
TEA7605
IN
GND
OUT
TMS27PC010A-15FML
Index Dot
TL431CLP
REF
ANODE
CATHODE
BF199
BF871
BUZ91A-E3155
DTA124EK
DTA144EK
DTA144TK
DTC114EK
DTC124EK
DTC144EK
2SA1037K-R
2SA1162-G
2SC1623-L5L6
2SC2412K-T-146-R
2SC2412K-T-146-QR
2SC2413KQ
JA101-Q
JC501-Q-AMMO
2SA733-K
2SA1091-O
2SC1890A-D
2SC2551-O
2SA1220A-K
2SB772-Q
2SC2688-LK
LETTER SIDE
2SA1837
2SB734-34
2SC2958
2SD774-34
2SB1186A
2SC3298B-Y
2SD1763A
2SC4793
2SC2785-HFE
Letter side
2SC4927-01
2SD798A-P
2SD2012
2SD2061
2SD2096-EF
2SK1916-53-F50
DAN202K
DAP202K
1S2836
DA204K
1SS226
DSL60
E
B
C

-34
-34
C B
6A
BB-Y
3A
C E
E
C
-HFE
B
-01
E
-P
E

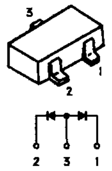
2SĐ2096-EF



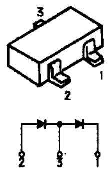
2SK1916-53-F50



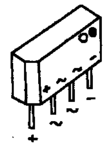
ĐAN202K
ĐAP202K
1S2836



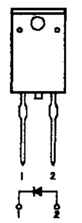
ĐA204K



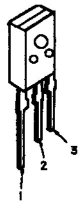
1SS226



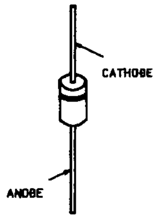
ĐSL60



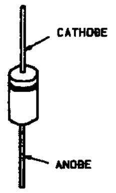
Đ10SC6M



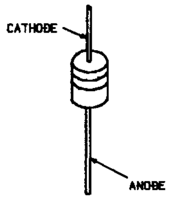
ĐGP20G
ERC25-06S
RGP02-20EL-6394
RU30ALFS1
RU3AM


CATHODE
ANODE

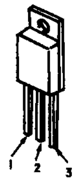
EL1Z
ERB44-06
GP08Đ
RGP10GPKG23
RGP15GPKG23
R2K-V1
1N4148A-T265


CATHODE
ANODE

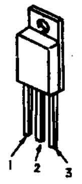
ERA85-009
MTZJ-T-77-12B
MTZJ-T-77-13C
MTZJ-T-77-15A
MTZJ-T-77-2.2A
MTZJ-T-77-3.6A
MTZJ-T-77-30B
MTZJ-T-77-33C
MTZJ-T-77-39C
MTZJ-T-77-5.6A
MTZJ-T-77-5.6B
MTZJ-T-77-7.5A
MTZJ-T-77-9.1
MTZN-1013
RĐ12ES-B2
RĐ5.6ES-B1
RĐ5.6ES-B2
RĐ6.2ES-B2
RĐ7.5ES-B2


CATHODE
ANODE

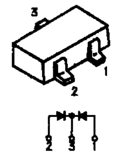
ESAB92-02



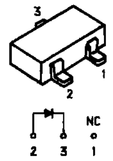
ESAC92M-02



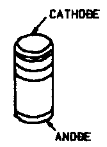
MA152WK



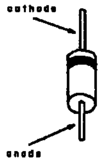
MA3030-H (TK)
MA3039H-TX
MA3047L-TX



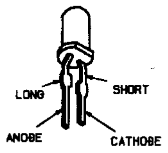
MA3051L-TX


CATHODE
ANODE

RGP02-17EL-6433


cathode
anode

LĐ201VR


LONG
SHORT
ANODE
CATHODE

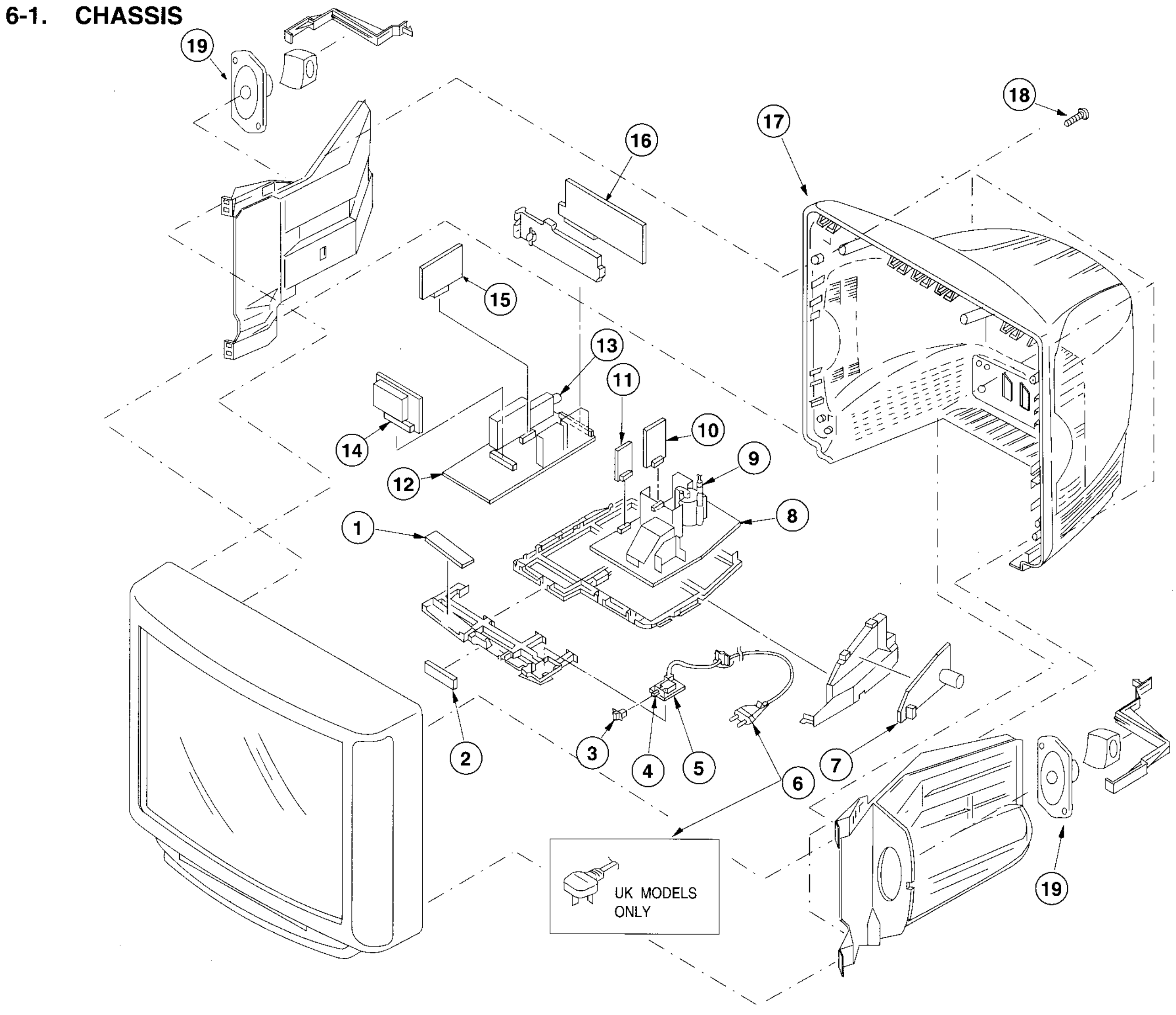
SECTION 6
EXPLODED VIEWS

NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

6-1. CHASSIS


19
16
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14
12
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1
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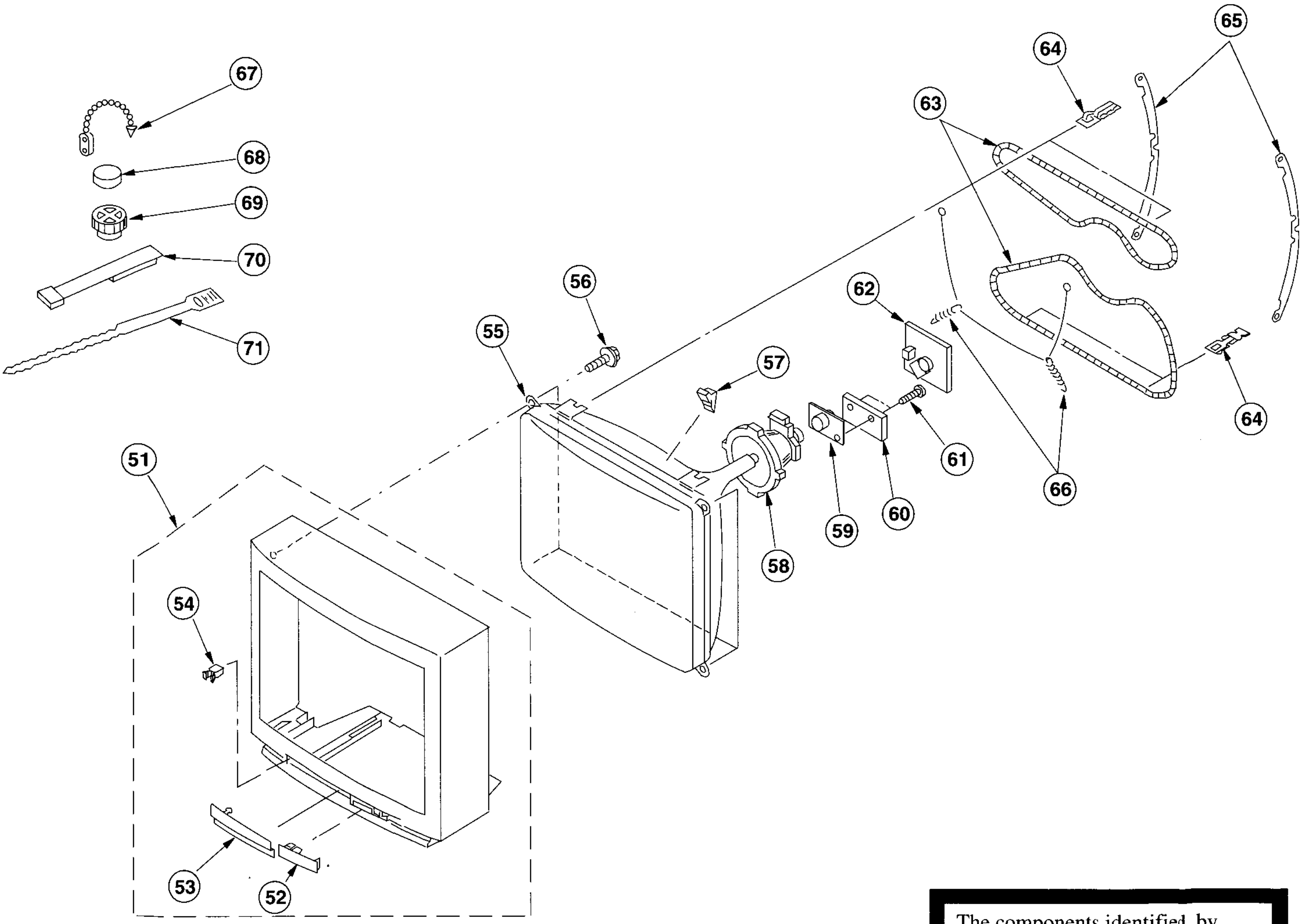
5
6
7
UK MODELS ONLY
19

REF NO	PART NO	DESCRIPTION	REMARK
1	*A-1646-045-A	H1 BOARD, COMPLETE	
2	*1-650-759-11	H2 BOARD	
3	4-202-637-01	BUTTON, POWER	
4	⚠ 1-571-433-11	SWITCH, PUSH (AC POWER)	
5	*1-648-312-11	F1 BOARD	
6	⚠ 1-751-680-11	CORD, POWER (WITH NOISE FILTER) (KV-X2971A,X2971D,X2971K)	
	⚠ 1-690-270-21	CORD, POWER (WITH CONNECTOR) (KV-X2971B,X2973E)	
	⚠ 1-590-762-11	CORD, POWER (WITH PLUG) (KV-X2922U)	
7	*A-1624-018-A	F2 BOARD, COMPLETE	
8	*A-1642-097-A	D BOARD, COMPLETE	
9	⚠ 1-453-153-11	TRANSFORMER ASSY, FLYBACK (NX-JU2602A2)	
10	*A-1642-116-A	D4 BOARD, COMPLETE	
11	*A-1640-109-A	D5 BOARD, COMPLETE	
12	*A-1632-170-A	A BOARD, COMPLETE (KV-X2971A,X2921D,X2971K)	
	*A-1632-183-A	A BOARD, COMPLETE (KV-X2971B)	
	*A-1632-177-A	A BOARD, COMPLETE (KV-X2972U)	
	*A-1632-180-A	A BOARD, COMPLETE (KV-X2973E)	
13	1-693-184-11	TUNER (U944C) (KV-X2972U)	
	1-693-185-11	TUNER (UV916H) (KV-X2971B,X2971D X2971K,X2973E,X2971A)	
14	*A-1635-015-A	M2 BOARD, COMPLETE	
15	*A-1632-178-A	A1 BOARD, COMPLETE (KV-X2972U)	
	*A-1632-179-A	A1 BOARD, COMPLETE (KV-X2973E)	
16	*A-1651-057-A	J BOARD, COMPLETE	
17	4-043-530-01	COVER REAR	
18	4-039-358-11	SCREW (4x16), (+) BV TAPPING	
19	1-544-728-11	SPEAKER	

6-2. PICTURE TUBE



The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

REF NO	PART NO	DESCRIPTION	REMARK
51	4-4031-666-1	CABINET ASSY (WITH BEZEL ASSY) 52-54	
52	4-202-643-01	WINDOW, ORNAMENTAL	
53	4-202-642-01	DOOR	
54	4-392-036-01	CATCHER, PUSH	
55	⚠ 8-733-841-05	PICTURE TUBE (M68KZT10X)	
56	4-036-188-01	SCREW (M), PT	
57	3-704-495-01	SPACER, DY	
58	⚠ 8-451-422-11	DEFLECTION YOKE (Y29GXA)	
59	⚠ 1-452-509-11	NECK ASSY, PICTURE TUBE (NA308)	
60	*A-1644-040-A	VM BOARD, COMPLETE	
61	4-039-357-01	SCREW 3x8, BV TAPPING	

REF NO	PART NO	DESCRIPTION	REMARK
62	*A-1638-042-A	C BOARD, COMPLETE	
63	⚠ 1-406-807-21	COIL, DEGAUSSING	
64	4-202-415-01	CLIP, DGC (29")	
65	4-202-416-01	BAND, DGC	
66	4-200-433-01	SPRING,EXTENSION	
67	4-308-870-00	CLIP, LEAD WIRE	
68	1-452-032-00	MAGNET, DISK; 10MM	
69	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM	
70	X-4306-312-0	PERMALLOY ASSY, CONVERGENCE	
71	3-701-007-00	BAND, BINDING	

ELECTRICAL PARTS LIST
SECTION 7

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS

- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
MF : mF, PF : mmF

COILS
MMH : mH, μH :

F2 **F1** **A1** (KV-X2972U KV-X2973E)

REF.NO.		PART NO.	DESCRIPTION				REMARK
		*A-1624-018-A	F2 BOARD, COMPLETE (KV-X2971A, X2971D, ****************** X2971K)				
		*A-1624-036-A	F2 BOARD, COMPLETE (KV-X2971B, X2973E, ****************** X2972U)				
			< CAPACITOR >				
C661	⚠	1-136-519-12	FILM	0.47MF	20%	300V	
C662	⚠	1-136-518-12	FILM	0.33MF	20%	300V	
C664	⚠	1-164-503-61	CERAMIC	0.0022MF	20%	400V	
C666		1-124-479-11	ELECT	330MF	20%	25V	
C667		1-126-337-11	ELECT	22MF	20%	50V	
C672	⚠	1-161-964-61	CERAMIC	0.0047MF		250V	
C673	⚠	1-161-964-61	CERAMIC	0.0047MF		250V	
C674		1-125-555-11	ELECT	330MF	20%	400V	
			< CONNECTOR >				
CN0005		1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P				
CN0007		1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P				
CN0924		*1-568-878-51	PIN, CONNECTOR 3P				
CN0925		*1-695-294-11	PIN, CONNECTOR (PC BOARD) 6P				
CN0929		1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P				
CN0931	⚠	*1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P				
			< DIODE >				
D661		8-719-901-33	DIODE 1SS133				
D663		8-719-510-53	DIODE D4SB60L				
D664		8-719-109-89	DIODE RD5.6ESB2				
			< TRANSFORMER >				
LF661	⚠	1-423-688-11	TRANSFORMER, LINE FILTER (LFT)				
LF662	⚠	1-424-391-11	TRANSFORMER, LINE FILTER (KV-X2971A,X2971D,X2971K)				
			< TRANSISTOR >				
Q661		8-729-920-74	TRANSISTOR 2SC2412K-QR				
			< RESISTOR >				
R663	⚠	1-244-945-91	CARBON	1M	5%	1/2W	
R664	⚠	1-205-949-11	WIREWOUND	1.8	5%	10W	
R665	⚠	1-218-265-11	METAL GLAZE	8.2M	5%	1W	
R666		1-247-807-31	CARBON	100	5%	1/4W	F
R667		1-249-430-11	CARBON	12K	5%	1/4W	
R668		1-249-436-11	CARBON	39K	5%	1/4W	
R669	⚠	1-205-949-11	WIREWOUND	1.8	5%	10W	

REF.NO.		PART NO.	DESCRIPTION				REMARK
R671		1-249-417-11	CARBON	1K	5%	1/4W	F
			< RELAY >				
RY661	⚠	1-515-720-31	RELAY				
			< THERMISTOR >				
THP661	⚠	1-809-827-11	THERMISTOR, POSITIVE				
			***				
		*1-648-312-11	F1 BOARD ********				
			< CONNECTOR >				
CN0003	⚠	*1-580-844-11	PIN, CONNECTOR (POWER)				
CN0831	⚠	*1-695-292-11	PIN, CONNECTOR (POWER)				
			< FUSE >				
F651	⚠	1-576-232-21	FUSE (H.B.C.) 5A/250V				
			< SWITCH >				
S651	⚠	1-571-433-11	SWITCH, PUSH (AC POWER)				
			***				
		*A-1632-179-A	A1 BOARD, COMPLETE (KV-X2973E) ******************				
		*A-1632-178-A	A1 BOARD, COMPLETE (KV-X2972U) ******************				
			< CAPACITOR >				
C1101		1-126-101-11	ELECT	100MF	20%	16V	
C1102		1-126-101-11	ELECT	100MF	20%	16V	
C1103		1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V	
C1104		1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V	
C1105		1-164-489-11	CERMAIC CHIP	0.22MF	10%	16V	
C1106		1-163-383-91	CERAMIC CHIP	180PF	5%	50V	
C1107		1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C1108		1-163-059-00	CERAMIC CHIP	0.01MF		50V	
C1109		1-163-033-00	CERAMIC CHIP	0.022MF		50V	
C1110		1-164-336-11	CERMAIC CHIP	0.33MF		25V	
C1111		1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C1112		1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V	
C1113		1-124-477-11	ELECT	47MF	20%	16V	
C1114		1-163-038-00	CERAMIC CHIP	0.1MF		25V	
C1115		1-124-477-11	ELECT	47MF	20%	16V	

A1 (KV-X2972U KV-X2973E)

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1116	1-106-228-00	MYLAR	0.22MF	10%	100V
C1117	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C1118	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C1119	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C1120	1-163-193-00	CERAMIC CHIP	330PF	5%	50V
C1121	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C1122	1-163-081-00	CERAMIC CHIP	0.22MF		25V
C1123	1-106-228-00	MYLAR	0.22MF	10%	100V
C1124	1-124-477-11	ELECT	47MF	20%	16V
C1125	1-124-477-11	ELECT	47MF	20%	16V
C1126	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C1127	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1128	1-124-477-11	ELECT	47MF	20%	16V
C1129	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1130	1-163-205-00	CERAMIC CHIP	0.001MF	10%	50V
C1131	1-163-059-00	CERAMIC CHIP	0.01MF		50V
C1132	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1133	1-124-907-11	ELECT	10MF	20%	50V
C1134	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1135	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1136	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C1137	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1138	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C1139	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C1140	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C1141	1-163-205-00	CERAMIC CHIP	0.001MF	10%	50V
C1142	1-163-057-00	CERAMIC CHIP	0.0068MF		50V
C1143	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C1144	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C1145	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C1146	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1147	1-124-477-11	ELECT	47MF	20%	16V
C1148	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C1149	1-124-477-11	ELECT	47MF	20%	16V
C1150	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1151	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1152	1-124-477-11	ELECT	47MF	20%	16V
C1153	1-163-087-00	CERAMIC CHIP	4PF	0.25PF	50V
C1154	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1155	1-124-477-11	ELECT	47MF	20%	16V
C1156	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1157	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1158	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1159	1-163-243-11	CERAMIC CHIP	47PF	5%	50V (KV-X2972U)
		< FILTER >			
BP1101	1-236-238-12	FILTER, BAND PASS (KV-X2972U)			
	1-239-047-11	FILTER, BAND PASS (KV-X2973E)			
CF1101	1-409-333-00	TRAP, CERAMIC (6.0MHZ) (KV-X2972U)			
CF1102	1-404-134-00	TRAP, CERAMIC (5.5MHZ) (KV-X2973E)			
		< CONNECTOR >			
CN0201	1-695-300-11	CONNECTOR, BOARD TO BOARD 20P			
		< DIODE >			
D1101	8-719-914-44	DIODE DAP202K			
D1102	8-719-027-70	DIODE 1SV217-TPH3			
D1103	8-719-820-71	DIODE 1SV214			

REF.NO.	PART NO.	DESCRIPTION			REMARK
		< FERRITE BEAD >			
FB1101	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH		
FB1102	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH		
FB1103	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH		
FB1104	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH		
FB1105	1-410-396-41	FERRITE BEAD INDUCTOR	0.45UH		
		< IC >			
IC1101	8-759-511-88	IC TDA8732			
IC1102	8-759-184-28	IC SAA7282-ZP			
		< COIL >			
L1101	1-408-405-00	INDUCTOR	4.7UH		
L1102	1-408-405-00	INDUCTOR	4.7UH		
L1103	1-410-119-11	INDUCTOR	1MMH		
L1104	1-410-119-11	INDUCTOR	1MMH		
L1105	1-408-411-00	INDUCTOR	15UH (KV-X2972U)		
		< TRANSISTOR >			
Q1101	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1102	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1103	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1104	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1105	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1106	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1107	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q1108	8-729-920-74	TRANSISTOR 2SC2412K-QR			
		< RESISTOR >			
JR1101	1-216-296-91	METAL GLAZE	0	5%	1/8W (KV-X2973E)
JR1102	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR1103	1-216-296-91	METAL GLAZE	0	5%	1/8W
JR1104	1-216-295-91	METAL GLAZE	0	5%	1/10W
R1101	1-216-188-00	METAL GLAZE	390	5%	1/8W
R1102	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R1103	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R1104	1-216-041-00	METAL GLAZE	470	5%	1/10W
R1105	1-216-005-00	METAL GLAZE	15	5%	1/10W
R1106	1-216-185-00	METAL GLAZE	300	5%	1/8W
R1107	1-216-042-00	METAL GLAZE	510	5%	1/10W
R1108	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R1109	1-216-202-00	METAL GLAZE	1.5K	5%	1/8W
R1110	1-216-196-00	METAL GLAZE	820	5%	1/8W
R1111	1-216-041-00	METAL GLAZE	470	5%	1/10W
R1112	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R1113	1-216-001-00	METAL GLAZE	10	5%	1/10W
R1114	1-216-105-00	METAL GLAZE	220K	5%	1/10W
R1115	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R1116	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R1117	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R1118	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R1119	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R1120	1-216-232-00	METAL GLAZE	27K	5%	1/8W
R1121	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R1122	1-216-158-00	METAL GLAZE	22	5%	1/8W
R1123	1-216-158-00	METAL GLAZE	22	5%	1/8W
R1124	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R1125	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R1126	1-216-218-00	METAL GLAZE	6.8K	5%	1/8W

A1 (KV-X2972U KV-X2973E) A

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1127	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R1128	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R1129	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R1130	1-216-246-91	METAL GLAZE 100K 5%	1/8W
R1131	1-216-218-00	METAL GLAZE 6.8K 5%	1/8W
R1132	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R1133	1-216-089-91	METAL GLAZE 47K 5%	1/10W
R1134	1-216-212-00	METAL GLAZE 3.9K 5%	1/8W
R1135	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R1136	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R1137	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R1138	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R1139	1-216-005-00	METAL GLAZE 15 5%	1/10W
R1140	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R1141	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R1142	1-216-033-00	METAL GLAZE 220 5%	1/10W
R1143	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1144	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1145	1-216-001-00	METAL GLAZE 10 5%	1/10W
R1146	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1147	1-216-045-00	METAL GLAZE 680 5%	1/10W
R1148	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1149	1-216-001-00	METAL GLAZE 10 5%	1/10W
R1150	1-216-045-00	METAL GLAZE 680 5%	1/10W
R1151	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1152	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1153	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R1154	1-216-041-00	METAL GLAZE 470 5%	1/10W

< CRYSTAL >

REF.NO.	PART NO.	DESCRIPTION	REMARK
X1101	1-579-689-21	VIBRATOR, CRYSTAL	
X1102	1-579-282-21	VIBRATOR, CRYSTAL (KV-X2973E)	
	1-579-283-21	VIBRATOR, CRYSTAL (KV-X2972U)	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1632-170-A	A BOARD, COMPLETE (KV-X2971A,X2971D, X2971K) *****************	
	*A-1632-183-A	A BOARD, COMPLETE (KV-X2971B) *****************	
	*A-1632-179-A	A BOARD, COMPLETE (KV-X2973E) *****************	
	*A-1632-180-A	A BOARD, COMPLETE (KV-X2972U) *****************	

< CAPACITOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
C071	1-126-108-11	ELECT 56MF 20%	16V
C072	1-124-120-11	ELECT 220MF 20%	16V
C074	1-163-001-11	CERAMIC CHIP 220PF 10%	50V
C102	1-126-103-11	ELECT 470MF 20%	16V
C103	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C104	1-124-477-11	ELECT 47MF 20%	16V
C105	1-124-916-11	ELECT 22MF 20%	50V
C106	1-124-927-11	ELECT 4.7MF 20%	50V
C110	1-124-478-11	ELECT 100MF 20%	25V
C120	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C201	1-130-489-00	FILM 0.033MF 5%	50V
C202	1-130-489-00	FILM 0.033MF 5%	50V
C203	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C204	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C205	1-124-907-11	ELECT 10MF 20%	50V
C206	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C207	1-137-613-11	FILM 0.0018MF 2%	100V
C208	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C209	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C210	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C213	1-163-023-00	CERAMIC CHIP 0.015MF 10%	50V
C214	1-163-023-00	CERAMIC CHIP 0.015MF 10%	50V
C215	1-163-809-11	CERAMIC CHIP 0.047MF 10%	25V
C216	1-163-809-11	CERAMIC CHIP 0.047MF 10%	25V
C217	1-124-925-11	ELECT 2.2MF 20%	50V
C218	1-124-925-11	ELECT 2.2MF 20%	50V
C219	1-163-011-11	CERAMIC CHIP 0.0015MF 10%	50V
C220	1-163-011-11	CERAMIC CHIP 0.0015MF 10%	50V
C221	1-124-925-11	ELECT 2.2MF 20%	50V
C222	1-124-925-11	ELECT 2.2MF 20%	50V
C223	1-136-177-00	FILM 1MF 5%	50V
C224	1-136-177-00	FILM 1MF 5%	50V
C225	1-164-182-11	CERAMIC CHIP 0.0033MF 10%	50V
C226	1-163-007-11	CERAMIC CHIP 680PF 10%	50V
C227	1-124-907-11	ELECT 10MF 20%	50V
C228	1-124-907-11	ELECT 10MF 20%	50V
C229	1-124-478-11	ELECT 100MF 20%	25V
C230	1-124-478-11	ELECT 100MF 20%	25V
C231	1-164-346-11	CERAMIC CHIP 1MF	16V
C232	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C233	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C234	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C235	1-130-772-00	FILM 0.22MF 5%	63V
C236	1-124-618-11	ELECT 2200MF 20%	35V
C237	1-124-618-11	ELECT 2200MF 20%	35V
C238	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C239	1-130-772-00	FILM 0.22MF 5%	63V
C240	1-124-916-11	ELECT 22MF 20%	50V
C241	1-124-916-11	ELECT 22MF 20%	50V
C242	1-124-903-11	ELECT 1MF 20%	50V
C244	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V
C248	1-163-185-00	CERAMIC CHIP 150PF 5%	50V
C249	1-163-129-00	CERAMIC CHIP 330PF 5%	50V
C251	1-126-320-11	ELECT 10MF 20%	16V
C254	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C255	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C256	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C257	1-163-133-00	CERAMIC CHIP 470PF 5%	50V
C299	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C301	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C302	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C303	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C304	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C305	1-163-096-00	CERAMIC CHIP 13PF 5%	50V
C306	1-163-097-00	CERAMIC CHIP 15PF 5%	50V
C307	1-163-017-00	CERAMIC CHIP 0.0047MF 10%	50V
C308	1-163-809-11	CERAMIC CHIP 0.047MF 10%	25V
C309	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C310	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C311	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C312	1-124-477-11	ELECT 47MF 20%	16V
C313	1-163-077-91	CERAMIC CHIP 0.1MF	50V
C314	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C315	1-124-477-11	ELECT 47MF 20%	16V
C316	1-163-077-91	CERAMIC CHIP 0.1MF	50V
C317	1-163-103-00	CERAMIC CHIP 27PF 5%	50V

REF.NO.	PART NO.	DESCRIPTION		REMARK
C318	1-163-103-00	CERAMIC CHIP 27PF	5%	50V
C319	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C320	1-124-477-11	ELECT 47MF	20%	16V
C321	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C322	1-124-916-11	ELECT 22MF	20%	50V
C323	1-163-135-00	CERAMIC CHIP 560PF	5%	50V
C324	1-124-477-11	ELECT 47MF	20%	16V
C325	1-163-111-00	CERAMIC CHIP 56PF	5%	50V
C341	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V
C342	1-163-077-00	CERAMIC CHIP 0.1MF	10%	25V
C343	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C344	1-162-638-11	CERAMIC CHIP 1MF		16V
C345	1-164-346-11	CERAMIC CHIP 1MF		16V
C346	1-124-925-11	ELECT 2.2MF	20%	50V
C347	1-162-638-11	CERAMIC CHIP 1MF		16V
C348	1-164-346-11	CERAMIC CHIP 1MF		16V
C349	1-164-346-11	CERAMIC CHIP 1MF		16V
C350	1-124-907-11	ELECT 10MF	20%	50V
C351	1-124-443-00	ELECT 100MF	20%	10V
C353	1-164-346-11	CERAMIC CHIP 1MF		16V
C354	1-164-346-11	CERAMIC CHIP 1MF		16V
C355	1-162-638-11	CERAMIC CHIP 1MF		16V
C356	1-164-489-11	CERAMIC CHIP 0.22MF	10%	16V
C357	1-164-299-11	CERAMIC CHIP 0.22MF	10%	25V
C358	1-164-299-11	CERAMIC CHIP 0.22MF	10%	25V
C359	1-124-907-11	ELECT 10MF	20%	50V
C360	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C361	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C362	1-130-772-00	FILM 0.22MF	5%	63V
C363	1-124-907-11	ELECT 10MF	20%	50V
C365	1-124-120-11	ELECT 220MF	20%	16V
C366	1-124-903-11	ELECT 1MF	20%	50V
C369	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C401	1-164-005-11	CERAMIC CHIP 0.47MF		16V
C402	1-124-034-51	ELECT 33MF	20%	16V
C403	1-162-637-11	CERAMIC CHIP 0.47MF		16V
C411	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C412	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C421	1-124-477-11	ELECT 47MF	20%	16V
C422	1-124-477-11	ELECT 47MF	20%	16V
C423	1-101-004-00	CERAMIC 0.01MF		50V
C424	1-163-129-00	CERAMIC CHIP 330PF	5%	50V
C425	1-163-129-00	CERAMIC CHIP 330PF	5%	50V
C426	1-124-477-11	ELECT 47MF	20%	16V
C427	1-164-346-11	CERAMIC CHIP 1MF		16V
C428	1-164-346-11	CERAMIC CHIP 1MF		16V
C429	1-124-119-00	ELECT 330MF	20%	16V
C574	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C575	1-164-299-11	CERAMIC CHIP 0.22MF	10%	25V
C576	1-163-075-00	CERAMIC CHIP 0.047MF	10%	25V
C581	1-163-031-11	CERAMIC CHIP 0.01MF		50V
C582	1-124-916-11	ELECT 22MF	20%	50V
C583	1-163-133-00	CERAMIC CHIP 470PF	5%	50V
C585	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C586	1-163-063-00	CERAMIC CHIP 0.022MF	10%	50V
C587	1-124-903-11	ELECT 1MF	20%	50V
C588	1-164-346-11	CERAMIC CHIP 1MF		16V
C589	1-124-478-11	ELECT 100MF	20%	25V
C590	1-124-916-11	ELECT 22MF	20%	50V
C591	1-124-925-11	ELECT 2.2MF	20%	50V

REF.NO.	PART NO.	DESCRIPTION		REMARK
C592	1-163-017-00	CERAMIC CHIP 0.0047MF	10%	50V
C593	1-164-182-11	CERAMIC CHIP 0.0033MF	10%	50V
C595	1-163-109-00	CERAMIC CHIP 47PF	5%	50V
C599	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C644	1-124-916-11	ELECT 22MF	20%	50V
C681	1-124-478-11	ELECT 100MF	20%	25V
C682	1-126-516-11	ELECT 120MF	20%	16V
C683	1-124-478-11	ELECT 100MF	20%	25V
C685	1-124-478-11	ELECT 100MF	20%	25V
C686	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C687	1-124-916-11	ELECT 22MF	20%	50V
		< FILTER >		
CF581	1-577-611-11	OSCILLATOR, CERAMIC		
		< CONNECTOR >		
CN0001	*1-568-880-51	PIN, CONNECTOR 5P		
CN0101	1-695-297-11	CONNECTOR,BOARD TO BOARD 20P (KV-X2973E,X2972U)		
CN0103	1-564-511-11	PLUG, CONNECTOR 8P		
CN0104	1-564-511-11	PLUG, CONNECTOR 8P		
CN0105	*1-568-880-51	PIN, CONNECTOR 5P		
CN0106	*1-568-880-51	PIN, CONNECTOR 5P		
CN0107	*1-568-879-11	PIN, CONNECTOR 4P		
CN0108	*1-568-878-51	PIN, CONNECTOR 3P		
CN0109	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P		
CN0110	*1-568-882-51	PIN, CONNECTOR 7P		
CN0113	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P		
CN0119	*1-568-879-11	PIN, CONNECTOR 4P		
CN5108	*1-564-513-11	PLUG, CONNECTOR 10P		
		< DIODE >		
D068	8-719-914-44	DIODE DAP202K		
D069	8-719-914-44	DIODE DAP202K		
D071	8-719-109-89	DIODE RD5.6ESB2		
D073	8-719-109-89	DIODE RD5.6ESB2		
D075	8-719-914-43	DIODE DAN202K		
D077	8-719-914-43	DIODE DAN202K		
D078	8-719-109-89	DIODE RD5.6ESB2		
D079	8-719-109-89	DIODE RD5.6ESB2		
D101	8-719-982-27	DIODE MTZJ-33C		
D206	8-719-914-43	DIODE DAN202K		
D207	8-719-921-89	DIODE MTZJ-13C		
D208	8-719-901-33	DIODE 1SS133		
D209	8-719-901-33	DIODE 1SS133		
D210	8-719-901-33	DIODE 1SS133		
D211	8-719-901-33	DIODE 1SS133		
D212	8-719-901-33	DIODE 1SS133		
D213	8-719-914-43	DIODE DAN202K		
D214	8-719-914-42	DIODE DA204K		
D301	8-719-914-43	DIODE DAN202K		
D304	8-719-109-89	DIODE RD5.6ESB2		
D305	8-719-914-43	DIODE DAN202K		
D306	8-719-914-43	DIODE DAN202K		
D307	8-719-914-43	DIODE DAN202K		
D308	8-719-914-42	DIODE DA204K		
D311	8-719-914-42	DIODE DA204K		
D312	8-719-914-44	DIODE DAP202K		
D313	8-719-914-43	DIODE DAN202K		
D314	8-719-914-43	DIODE DAN202K		

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The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
D381	8-719-110-03	DIODE RD7.5ESB2	
D401	8-719-921-69	DIODE MTZJ9.1	
D403	8-719-921-69	DIODE MTZJ9.1	
D405	8-719-921-69	DIODE MTZJ9.1	
D406	8-719-921-69	DIODE MTZJ9.1	
D407	8-719-921-69	DIODE MTZJ9.1	
D571	8-719-914-42	DIODE DA204K	
D681	8-719-921-75	DIODE MTZN-10B	
D683	8-719-914-44	DIODE DAP202K	

< IC >

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC072	8-759-184-27	IC ST24C16CB1	
IC201	8-759-073-30	IC TDA6612 (KV-X2971A,X2971B,X2971D, X2973E,X2971K)	
	8-759-073-31	IC TDA6622 (KV-X2972U)	
IC202	8-759-502-21	IC TDA2822M	
IC251	8-759-072-99	IC TDA2052	
IC261	8-759-072-99	IC TDA2052	
IC301	8-759-189-90	IC TDA9145/N2B	
IC302	8-759-084-91	IC TDA4661/V2	
IC304	8-752-056-54	IC CXA1587S	
IC401	8-752-068-46	IC CXA1855S	
IC402	8-759-073-00	IC TEA2114	
IC681	8-759-072-98	IC TDA8138A	
IC684	8-759-701-59	IC NJM78M09FA	
IC685	8-759-510-52	IC TEA7605	

< IF BLOCK >

REF.NO.	PART NO.	DESCRIPTION	REMARK
IFB101	1-466-733-11	IF BLOCK (IFH-389) (KV-X2971D,X2973E,X2971K, X2971A)	
	1-466-734-11	IF BLOCK (IFH-395) (KV-X2972U)	
	1-466-735-11	IF BLOCK (IFH-389F) (KV-X2971B)	

< COIL >

REF.NO.	PART NO.	DESCRIPTION	REMARK
L101	1-412-546-41	INDUCTOR 560UH	
L102	1-408-413-00	INDUCTOR 22UH	
L201	1-407-500-00	INDUCTOR 4.7MMH	
L307	1-408-405-00	INDUCTOR 4.7UH	
L309	1-408-411-00	INDUCTOR 15UH	
L575	1-408-397-00	INDUCTOR 1UH	
L611	1-412-539-41	INDUCTOR 150UH	
L681	1-412-539-41	INDUCTOR 150UH	

< IC LINK >

REF.NO.	PART NO.	DESCRIPTION	REMARK
PS681 ⚠	1-532-605-91	LINK, IC 0.4A	
PS682 ⚠	1-532-605-91	LINK, IC 0.4A	

< TRANSISTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q071	8-729-901-05	TRANSISTOR DTA124EK	
Q101	8-729-216-22	TRANSISTOR 2SA1162-G	
Q102	8-729-901-00	TRANSISTOR DTC124EK	
Q103	8-729-900-53	TRANSISTOR DTC114EK	
Q201	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q202	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q203	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q204	8-729-216-22	TRANSISTOR 2SA1162-G	
Q205	8-729-216-22	TRANSISTOR 2SA1162-G	
Q206	8-729-216-22	TRANSISTOR 2SA1162-G	
Q207	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q209	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q210	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q303	8-729-216-22	TRANSISTOR 2SA1162-G	
Q304	8-729-900-53	TRANSISTOR DTC114EK	
Q306	8-729-216-22	TRANSISTOR 2SA1162-G	
Q308	8-729-216-22	TRANSISTOR 2SA1162-G	
Q309	8-729-931-02	TRANSISTOR 2SC2413KQ	
Q311	8-729-901-06	TRANSISTOR DTA144EK	
Q312	8-729-900-53	TRANSISTOR DTC114EK	
Q313	8-729-216-22	TRANSISTOR 2SA1162-G	
Q314	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q315	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q316	8-729-901-01	TRANSISTOR DTC144EK	
Q317	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q401	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q402	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q403	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q581	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q582	8-729-216-22	TRANSISTOR 2SA1162-G	
Q583	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q610	8-729-140-97	TRANSISTOR 2SB734-34	
Q681	8-729-109-53	TRANSISTOR 2SD795A-P	
Q682	8-729-900-53	TRANSISTOR DTC114EK	

< RESISTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
JR102	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR104	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR107	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR109	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR110	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR111	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR112	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR113	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR114	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR115	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR116	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR117	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR118	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR119	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR120	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR121	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR122	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR123	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR125	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR126	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR127	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR128	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR129	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR130	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR131	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR132	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR133	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR134	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR135	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR136	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR137	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR138	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR139	1-216-295-00	METAL GLAZE 0 5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR140	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR141	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR142	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR143	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR144	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR146	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR149	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR150	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR151	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR152	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR201	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR202	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR203	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR204	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR205	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR206	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR207	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR208	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR209	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR210	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR211	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR212	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR213	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR214	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR215	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR216	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR217	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR218	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR219	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR220	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR221	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR222	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR223	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR224	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR225	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR226	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR227	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR228	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR229	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR230	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR231	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR232	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR233	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR234	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR235	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR236	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR237	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR238	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR239	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR240	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR241	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR242	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR243	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR245	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR247	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR248	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR250	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR251	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR252	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR253	1-216-296-00	METAL GLAZE	0	5%	1/8W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR254	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR255	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR257	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR272	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R071	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R072	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R073	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R074	1-216-198-91	METAL GLAZE	1K	5%	1/8W	
R076	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R077	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R101	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R102	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R103	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R105	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R108	1-216-230-00	METAL GLAZE	22K	5%	1/8W	
R115	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W	
R201	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R202	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R203	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R204	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R205	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R206	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R207	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R208	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R209	1-249-377-11	CARBON	0.47	5%	1/4W	F
R210	1-247-734-11	CARBON	39	5%	1/2W	
R211	1-247-734-11	CARBON	39	5%	1/2W	
R212	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R213	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R214	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R215	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R216	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R217	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R218	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R221	1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R222	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R223	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R224	1-249-433-11	CARBON	22K	5%	1/4W	
R225	1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R226	1-249-412-11	CARBON	390	5%	1/4W	
R227	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R228	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R229	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R230	1-216-246-91	METAL GLAZE	100K	5%	1/8W	
R231	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R232	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R233	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R234	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R235	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R236	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R237	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R238	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R241	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R242	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W	
R244	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R245	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R246	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R247	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R248	1-216-073-00	METAL GLAZE	10K	5%	1/10W	

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R249	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R250	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R251	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R252	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R253	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R254	1-216-252-00	METAL GLAZE	180K	5%	1/8W	
R255	1-216-252-00	METAL GLAZE	180K	5%	1/8W	
R256	1-249-409-11	CARBON	220	5%	1/4W	
R257	1-249-409-11	CARBON	220	5%	1/4W	
R258	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R259	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R260	1-216-212-00	METAL GLAZE	3.9K	5%	1/8W	
R301	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R302	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R303	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R304	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R305	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R306	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R307	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R308	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R309	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R310	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R311	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R312	1-249-413-11	CARBON	470	5%	1/4W	
R313	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R314	1-249-409-11	CARBON	220	5%	1/4W	
R315	1-249-409-11	CARBON	220	5%	1/4W	
R316	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R318	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R319	1-249-413-11	CARBON	470	5%	1/4W	
R322	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R323	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R324	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R325	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R328	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R329	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R330	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R331	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R332	1-216-182-91	METAL GLAZE	220	5%	1/8W	
R333	1-216-182-91	METAL GLAZE	220	5%	1/8W	
R334	1-216-182-91	METAL GLAZE	220	5%	1/8W	
R336	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R337	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R338	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R339	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R340	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R341	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R342	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R343	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R344	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R345	1-216-171-00	METAL GLAZE	75	5%	1/8W	
R346	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R347	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R351	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R352	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R354	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R355	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R356	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R357	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R358	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R359	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R360	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R361	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R362	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R366	1-216-236-11	METAL GLAZE	39K	5%	1/8W	
R376	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R377	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R378	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R379	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R380	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R381	1-216-164-00	METAL GLAZE	39	5%	1/8W	
R382	1-216-164-00	METAL GLAZE	39	5%	1/8W	
R383	1-216-164-00	METAL GLAZE	39	5%	1/8W	
R385	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R386	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R387	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R388	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R389	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R390	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R391	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R392	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R393	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R394	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R395	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R396	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R401	1-216-171-00	METAL GLAZE	75	5%	1/8W	
R402	1-216-158-00	METAL GLAZE	22	5%	1/8W	
R403	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R404	1-216-158-00	METAL GLAZE	22	5%	1/8W	
R405	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R406	1-216-158-00	METAL GLAZE	22	5%	1/8W	
R407	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R408	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R410	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R411	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R412	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R413	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R414	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R416	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R417	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R419	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R420	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R424	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R425	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R428	1-249-393-11	CARBON	10	5%	1/4W	F
R574	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R575	1-216-186-00	METAL GLAZE	330	5%	1/8W	
R577	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R578	1-216-238-91	METAL GLAZE	47K	5%	1/8W	
R580	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R581	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R582	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R583	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R584	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R585	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R586	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R587	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R588	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R589	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R590	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

A IF (KV-X2971A/X2971D/ KV-X2973E/X2971K)

REF.NO.	PART NO.	DESCRIPTION	REMARK
R591	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R592	1-216-232-00	METAL GLAZE 27K 5% 1/8W	
R593	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R594	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R595	1-216-643-11	METAL CHIP 470 0.50% 1/10W	
R596	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
R597	1-216-230-00	METAL GLAZE 22K 5% 1/8W	
R598	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R600	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R616	1-216-184-00	METAL GLAZE 270 5% 1/8W	
R619	1-216-077-00	METAL GLAZE 15K 5% 1/10W	
R628	1-249-413-11	CARBON 470 5% 1/4W	
R632	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R681	1-216-541-00	METAL OXIDE 4.3 5% 3W	F
R682	1-249-415-11	CARBON 680 5% 1/4W	
R683	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R2219	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R2220	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R2221	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R2222	1-216-174-00	METAL GLAZE 100 5% 1/8W	

< TUNER >

REF.NO.	PART NO.	DESCRIPTION	REMARK
TU101	1-693-185-11	TUNER (UV-916H) (KV-X2971A,X2971B,X2971D, X2973E,X2971K)	
	1-693-184-11	TUNER (U944C) (KV-X2972U)	

< CRYSTAL >

REF.NO.	PART NO.	DESCRIPTION	REMARK
X301	1-567-504-11	OSCILLATOR, CRYSTAL	
X302	1-567-505-11	OSCILLATOR, CRYSTAL	

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1-466-733-11 IF BLOCK (IFH-389) (KV-X2971A,X2971D,
****************** X2971K,X2973E)

< CAPACITOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
C101	1-163-121-00	CERAMIC CHIP 150PF 5%	50V
C102	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C103	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V
C104	1-164-232-11	CERAMIC CHIP 0.01F 10%	50V
C105	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C106	1-124-477-11	ELECT 47MF 20%	16V
C107	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C108	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C109	1-164-232-11	CERAMIC CHIP 0.01F 10%	50V
C112	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C113	1-164-101-00	CERAMIC CHIP 22PF 5%	50V
C114	1-124-477-11	ELECT 47MF 20%	16V
C115	1-164-232-11	CERAMIC CHIP 0.01F 10%	50V
C116	1-164-346-11	CERAMIC CHIP 1MF	16V
C118	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C119	1-163-369-11	CERAMIC CHIP 47PFF 5%	25V
C121	1-163-235-11	CERAMOC CHIP 22PF 5%	50V
C122	1-164-239-11	CERAMIC CHIP 33PF 5%	50V
C123	1-163-235-11	CERAMIC CHIP 22PF 5%	50V
C124	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C130	1-216-295-00	METAL GLAZE 0 5% 1/10W	
C131	1-163-093-00	CERAMIC CHIP 10PF 5%	50V
C133	1-124-477-11	ELECT 47MF 20%	16V
C152	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C153	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C154	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C155	1-164-232-11	CERAMIC CHIP 0.01F 10%	50V
C156	1-124-477-11	ELECT 47MF 20%	16V
C161	1-164-117-00	CERAMIC CHIP 100PF 5%	50V
C162	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C163	1-164-346-11	CERAMIC CHIP 1MF	16V
C164	1-163-141-00	CERAMIC CHIP 0.001MF 5%	50V
C165	1-164-232-11	CERAMIC CHIP 0.01F 10%	50V
C166	1-124-477-11	ELECT 47MF 20%	16V
C167	1-163-213-00	CERAMIC CHIP 0.0022MF 5%	50V
C168	1-164-346-11	CERAMIC CHIP 1MF	16V
C170	1-124-477-11	ELECT 47MF 20%	16V
C171	1-124-477-11	ELECT 47MF 20%	16V
C173	1-124-477-11	ELECT 47MF 20%	16V

< FILTER >

REF.NO.	PART NO.	DESCRIPTION	REMARK
CF2	1-527-839-00	FILTER, CERAMIC	
CF3	1-527-840-00	FILTER, CERAMIC	
CF4	1-567-570-00	FILTER, CERAMIC	
SWF1	1-579-658-11	FILTER, SAWTOOTH WAVE	

< CONNECTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN1	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P	
CN2	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P	

< TRIMMER >

REF.NO.	PART NO.	DESCRIPTION	REMARK
CT1	1-404-801-11	TRAP, CERAMIC	

< DIODE >

REF.NO.	PART NO.	DESCRIPTION	REMARK
D161	8-719-400-18	DIODE MA152WK	

< IC >

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1	8-759-070-76	IC M52308SP	
IC2	8-759-070-71	IC TDA9820	
IC3	8-759-514-54	IC BA7046	

< COIL >

REF.NO.	PART NO.	DESCRIPTION	REMARK
L101	1-408-421-00	INDUCTOR 100UH	
L102	1-408-419-00	INDUCTOR 68UH	
L103	1-408-419-00	INDUCTOR 68UH	
L104	1-408-408-00	INDUCTOR 8.2UH	
L121	1-408-413-00	INDUCTOR 22UH	
L122	1-408-420-00	INDUCTOR 82UH	
L142	1-408-790-00	INDUCTOR 0.56UH	
L151	1-408-419-00	INDUCTOR 68UH	
L161	1-408-419-00	INDUCTOR 68UH	

< TRANSISTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q101	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q102	8-729-216-22	TRANSISTOR 2SA1162-G	
Q121	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q122	8-729-216-22	TRANSISTOR 2SA1162-G	
Q161	8-729-216-22	TRANSISTOR 2SA1162-G	
Q170	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q171	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q172	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q173	8-729-920-74	TRANSISTOR 2SC2412K-QR	

< RESISTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
JR2	1-216-295-00	METAL GLAZE 0 5% 1/1 0W	

IF (KV-X2971A/X2971D/ KV-X2973E/X2971K) IF (KV-X2972U)

REF.NO.	PART NO.	DESCRIPTION	REMARK
JR3	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR4	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR7	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR8	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR9	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR11	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR14	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR16	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR18	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR19	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR20	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR21	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR23	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR24	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR25	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR29	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR30	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR33	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR38	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR39	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR40	1-216-296-00	METAL GLAZE 0 5% 1/8	
R101	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R102	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R103	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R104	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R106	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R107	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R108	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R110	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R113	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R114	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R115	1-216-027-00	METAL GLAZE 120 5% 1/10W	
R116	1-216-101-00	METAL GLAZE 150K 5% 1/10W	
R117	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R118	1-216-117-00	METAL GLAZE 680K 5% 1/10W	
R119	1-216-240-00	METAL GLAZE 56K 5% 1/8W	
R120	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R121	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R122	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R123	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R124	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R125	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R127	1-216-047-00	METAL GLAZE 820 5% 1/10W	
R130	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R131	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R132	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R133	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R134	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R135	1-216-198-00	METAL GLAZE 1K 5% 1/8W	
R150	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R151	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R152	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R153	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R154	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R155	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R156	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R157	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R159	1-216-107-00	METAL GLAZE 270K 5% 1/10W	
R160	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R161	1-216-755-11	METAL CHIP 130K 0.50% 1/10W	
R162	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R163	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R164	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R165	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R166	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R167	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R168	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R169	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R170	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R171	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R172	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R173	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R174	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R175	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R176	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R177	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R178	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R179	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R180	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R181	1-216-037-00	METAL GLAZE 330 5% 1/10W	

< VARIABLE RESISTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV1	1-241-121-11	RES, ADJ, CARBON 4.7K	

< TRANSFORMER >

REF.NO.	PART NO.	DESCRIPTION	REMARK
T4	1-416-017-21	COIL	
T5	1-416-018-21	COIL	

****

1-466-734-11 IF BLOCK (IFH-395) (KV-X2972U)
****

< CAPACITOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
C101	1-163-239-11	CERAMIC CHIP 33PF 5% 50V	
C102	1-164-222-11	CERAMIC CHIP 0.22MF 25V	
C103	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C104	1-164-232-11	CERAMIC CHIP 0.01F 10% 50V	
C105	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C106	1-124-477-11	ELECT 47MF 20% 16V	
C107	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C108	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C109	1-164-232-11	CERAMIC CHIP 0.01F 10% 50V	
C112	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C113	1-164-101-00	CERAMIC CHIP 22PF 5% 50V	
C114	1-124-477-11	ELECT 47MF 20% 16V	
C115	1-164-232-11	CERAMIC CHIP 0.01F 10% 50V	
C116	1-164-346-11	CERAMIC CHIP 1MF 16V	
C118	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C119	1-163-369-11	CERAMIC CHIP 47PFF 5% 25V	
C122	1-163-093-11	CERAMIC CHIP 10PF 5% 50V	
C130	1-216-295-00	METAL GLAZE 0 5% 1/10W	
C131	1-163-224-11	CERAMIC CHIP 7PF 0.25PF 50V	
C133	1-124-477-11	ELECT 47MF 20% 16V	
C161	1-164-117-00	CERAMIC CHIP 100PF 5% 50V	
C162	1-164-222-11	CERAMIC CHIP 0.22MF 25V	
C163	1-164-346-11	CERAMIC CHIP 1MF 16V	
C164	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V	
C165	1-164-232-11	CERAMIC CHIP 0.01F 10% 50V	
C166	1-124-477-11	ELECT 47MF 20% 16V	

IF (KV-X2972U)

REF.NO.	PART NO.	DESCRIPTION	REMARK
C167	1-163-213-00	CERAMIC CHIP 0.0022MF 5%	50V
C168	1-164-346-11	CERAMIC CHIP 1MF	16V
C170	1-124-477-11	ELECT 47MF 20%	16V
C171	1-124-477-11	ELECT 47MF 20%	16V
C173	1-124-477-11	ELECT 47MF 20%	16V

< FILTER >

REF.NO.	PART NO.	DESCRIPTION	REMARK
CD1	1-579-657-21	DISCRIMINATOR, CERAMIC	
CF1	1-567-569-11	FILTER, CERAMIC	
SWF1	1-579-659-11	FILTER, SAWTOOTH WAVE	

< CONNECTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN1	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P	
CN2	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P	

< TRIMMER >

REF.NO.	PART NO.	DESCRIPTION	REMARK
CT1	1-409-333-00	TRAP, CERAMIC (6.0MHZ)	

< DIODE >

REF.NO.	PART NO.	DESCRIPTION	REMARK
D161	8-719-400-18	DIODE MA152WK	

< IC >

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1	8-759-070-76	IC M52308SP	
IC3	8-759-514-54	IC BA7046	

< COIL >

REF.NO.	PART NO.	DESCRIPTION	REMARK
L101	1-408-414-00	INDUCTOR 27UH	
L102	1-408-419-00	INDUCTOR 68UH	
L103	1-408-419-00	INDUCTOR 68UH	
L104	1-408-406-00	INDUCTOR 5.6UH	
L105	1-408-410-00	INDUCTOR 12UH	
L142	1-408-790-41	INDUCTOR 0.56UH	
L161	1-408-419-00	INDUCTOR 68UH	

< TRANSISTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q101	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q102	8-729-216-22	TRANSISTOR 2SA1162-G	
Q122	8-729-216-22	TRANSISTOR 2SA1162-G	
Q161	8-729-216-22	TRANSISTOR 2SA1162-G	
Q172	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q173	8-729-920-74	TRANSISTOR 2SC2412K-QR	

< RESISTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
JR1	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR2	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR3	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR4	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR7	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR8	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR9	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR10	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR11	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR12	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR13	1-163-093-00	CERAMIC CHIP 10PF 5%	50V
JR14	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR16	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR18	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR19	1-216-296-00	METAL GLAZE 0 5%	1/8W

REF.NO.	PART NO.	DESCRIPTION	REMARK
JR20	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR21	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR23	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR24	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR25	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR29	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR30	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR33	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR38	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR39	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR40	1-216-296-00	METAL GLAZE 0 5%	1/8W
JR41	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR42	1-216-295-00	METAL GLAZE 0 5%	1/10W
JR101	1-216-295-00	METAL GLAZE 0 5%	1/10W
R101	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R102	1-216-045-00	METAL GLAZE 680 5%	1/10W
R103	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R104	1-216-051-00	METAL GLAZE 1.2K 5%	1/10W
R105	1-216-043-00	METAL GLAZE 560 5%	1/10W
R106	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R107	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R108	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
R110	1-216-041-00	METAL GLAZE 470 5%	1/10W
R112	1-216-045-00	METAL GLAZE 680 5%	1/10W
R113	1-216-031-00	METAL GLAZE 180 5%	1/10W
R114	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R115	1-216-031-00	METAL GLAZE 180 5%	1/10W
R116	1-216-101-00	METAL GLAZE 150K 5%	1/10W
R117	1-216-097-00	METAL GLAZE 100K 5%	1/10W
R118	1-216-117-00	METAL GLAZE 680K 5%	1/10W
R119	1-216-240-00	METAL GLAZE 56K 5%	1/8W
R120	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R121	1-216-053-00	METAL GLAZE 1.5K 5%	1/10W
R122	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R123	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R130	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R131	1-216-025-00	METAL GLAZE 100 5%	1/10W
R132	1-216-069-00	METAL GLAZE 6.8K 5%	1/10W
R133	1-216-061-00	METAL GLAZE 3.3K 5%	1/10W
R134	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R135	1-216-198-00	METAL GLAZE 1K 5%	1/8W
R153	1-216-025-00	METAL GLAZE 100 5%	1/10W
R159	1-216-107-00	METAL GLAZE 270K 5%	1/10W
R160	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R161	1-216-755-11	METAL CHIP 130K 0.50%	1/10W
R162	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R163	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R164	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R165	1-216-081-00	METAL GLAZE 22K 5%	1/10W
R166	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R167	1-216-073-00	METAL GLAZE 10K 5%	1/10W
R168	1-216-113-00	METAL GLAZE 470K 5%	1/10W
R169	1-216-049-00	METAL GLAZE 1K 5%	1/10W
R175	1-216-083-00	METAL GLAZE 27K 5%	1/10W
R176	1-216-075-00	METAL GLAZE 12K 5%	1/10W
R177	1-216-095-00	METAL GLAZE 82K 5%	1/10W
R178	1-216-059-00	METAL GLAZE 2.7K 5%	1/10W
R179	1-216-057-00	METAL GLAZE 2.2K 5%	1/10W
R181	1-216-037-00	METAL GLAZE 330 5%	1/10W

IF (KV-X2972U) IF (KV-X2971B)

REF.NO.	PART NO.	DESCRIPTION			REMARK
		< VARIABLE RESISTOR >			
RV1	1-241-121-11	RES, ADJ, CARBON 4.7K			
		< TRANSFORMER >			
T4	1-416-017-21	COIL			
T5	1-416-018-21	COIL			
**					
	1-466-735-11	IF BLOCK (IFH-389F) (KV-X2971B) *******************			
		< CAPACITOR >			
C1	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C2	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C3	1-124-903-11	ELECT	1MF	20%	50V
C4	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C5	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C6	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C7	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C8	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C9	1-124-916-11	ELECT	22MF	20%	25V
C10	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C11	1-124-477-11	ELECT	47MF	20%	16V
C13	1-163-059-00	CERAMIC CHIP	0.01MF	10%	50V
C14	1-124-477-11	ELECT	47MF	20%	16V
C15	1-124-903-11	ELECT	1MF	20%	50V
C16	1-163-061-00	CERAMIC CHIP	0.015MF	10%	50V
C17	1-162-638-11	CERAMIC CHIP	1MF		16V
C18	1-162-638-11	CERAMIC CHIP	1MF		16V
C19	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C20	1-124-902-00	ELECT	0.47MF	20%	50V
C21	1-124-903-11	ELECT	1MF	20%	50V
C22	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C23	1-124-902-00	ELECT	0.47MF	20%	50V
C24	1-164-506-11	CERAMIC CHIP	4.7MF		16V
C25	1-124-477-11	ELECT	47MF	20%	16V
C26	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C27	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C28	1-124-477-11	ELECT	47MF	20%	16V
C33	1-124-907-11	ELECT	10MF	20%	50V
C34	1-124-907-11	ELECT	10MF	20%	50V
C35	1-124-925-11	ELECT	2.2MF	20%	50V
C36	1-124-477-11	ELECT	47MF	20%	16V
C37	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C38	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C40	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C71	1-124-477-11	ELECT	47MF	20%	16V
C72	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C80	1-124-477-11	ELECT	47MF	20%	16V
C83	1-124-477-11	ELECT	47MF	20%	16V
C84	1-124-477-11	ELECT	47MF	20%	16V
C85	1-124-477-11	ELECT	47MF	20%	16V
C86	1-124-477-11	ELECT	47MF	20%	16V
C87	1-124-477-11	ELECT	47MF	20%	16V
C91	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C95	1-164-337-11	CERAMIC CHIP	2.2MF		16V
C101	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C102	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C104	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C105	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C106	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C119	1-163-369-11	CERAMIC CHIP	47PFF	5%	25V
C121	1-126-176-11	ELECT	220MF	20%	10V
C122	1-163-119-00	CERAMIC CHIP	120PF	5%	50V
C131	1-126-099-11	ELECT	2.2MF	20%	35V
		< FILTER >			
CF1	1-527-839-00	FILTER, CERAMIC			
CF2	1-567-569-11	FILTER, CERAMIC			
CF3	1-527-840-00	FILTER, CERAMIC			
CF4	1-567-570-11	FILTER, CERAMIC			
SWF1	1-579-662-11	FILTER, SURFACE WAVE			
SWF3	1-404-711-11	SAWF			
SWF4	1-579-660-11	FILTER, SAWTOOTH WAVE			
		< CONNECTOR >			
CN1	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P			
CN2	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P			
		< TRIMMER >			
CT1	1-404-801-11	TRAP, CERAMIC			
CT2	1-409-429-11	TRAP, CERAMIC			
CV1	1-141-245-00	CAP, TRIMMER			
CV1	1-141-245-00	CAP, TRIMMER			
CV3	1-141-304-21	TRIMMER, CERAMIC			
		< DIODE >			
D7	8-719-421-57	DIODE MA73-TX			
D8	8-719-421-57	DIODE MA73-TX			
D9	8-719-421-57	DIODE MA73-TX			
		< IC >			
IC1	8-759-070-75	IC M52312SP			
IC2	8-759-070-71	IC TDA9820			
IC3	8-759-979-62	IC PCF8574			
		< COIL >			
L1	1-408-419-00	INDUCTOR	68UH		
L2	1-408-419-00	INDUCTOR	68UH		
L3	1-408-407-00	INDUCTOR	6.8UH		
L4	1-408-419-00	INDUCTOR	68UH		
L5	1-408-419-00	INDUCTOR	68UH		
L7	1-408-406-00	INDUCTOR	5.6UH		
L9	1-408-419-00	INDUCTOR	68UH		
L71	1-408-419-00	INDUCTOR	68UH		
L101	1-408-399-00	INDUCTOR	1.5UH		
L121	1-408-407-00	INDUCTOR	6.8UH		
		< TRANSISTOR >			
Q1	8-729-907-06	TRANSISTOR BF199-AMMO			
Q4	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q5	8-729-115-10	TRANSISTOR 2SK105A-10			
Q6	8-729-900-52	TRANSISTOR DTC114YK			
Q7	8-729-216-22	TRANSISTOR 2SA1162-G			
Q8	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q10	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q11	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q12	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q13	8-729-920-74	TRANSISTOR 2SC2412K-QR			

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q14	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q15	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q16	8-729-216-22	TRANSISTOR 2SA1162-G	
Q101	8-729-104-80	TRANSISTOR 2SC3355	
Q121	8-729-920-74	TRANSISTOR 2SC2412K-QR	

< RESISTOR >

REF.NO.	PART NO.	DESCRIPTION			
JR2	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR3	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR5	1-216-296-00	METAL GLAZE	0	5%	1/8W
R1	1-216-025-00	METAL GLAZE	100	5%	1/10W
R2	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R3	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R4	1-216-041-00	METAL GLAZE	470	5%	1/10W
R5	1-216-021-00	METAL GLAZE	68	5%	1/10W
R6	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R8	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W
R9	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W
R10	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W
R11	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R24	1-216-280-00	METAL GLAZE	2.7M	5%	1/8W
R25	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R26	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R27	1-216-266-00	METAL GLAZE	680K	5%	1/8W
R28	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R29	1-216-035-00	METAL GLAZE	270	5%	1/10W
R30	1-216-049-00	METAL GLAZE	IK	5%	1/10W
R31	1-216-017-00	METAL GLAZE	47	5%	1/10W
R32	1-216-043-00	METAL GLAZE	560	5%	1/10W
R33	1-216-037-00	METAL GLAZE	330	5%	1/10W
R34	1-216-252-00	METAL GLAZE	180K	5%	1/8W
R35	1-216-035-00	METAL GLAZE	270	5%	1/10W
R36	1-216-029-00	METAL GLAZE	150	5%	1/10W
R37	1-216-049-00	METAL GLAZE	IK	5%	1/10W
R38	1-216-099-00	METAL GLAZE	120K	5%	1/10W
R39	1-216-089-00	METAL GLAZE	47K	5%	1/10W
R40	1-216-049-00	METAL GLAZE	IK	5%	1/10W
R42	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R43	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W
R44	1-216-027-00	METAL GLAZE	120	5%	1/10W
R45	1-216-041-00	METAL GLAZE	470	5%	1/10W
R46	1-216-031-00	METAL GLAZE	180	5%	1/10W
R47	1-216-075-00	METAL GLAZE	I2K	5%	1/10W
R48	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R49	1-216-049-00	METAL GLAZE	IK	5%	1/10W
R53	1-216-082-00	METAL GLAZE	24K	5%	1/10W
R54	1-216-043-00	METAL GLAZE	560	5%	1/10W
R55	1-216-043-00	METAL GLAZE	560	5%	1/10W
R56	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R57	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R58	1-216-041-00	METAL GLAZE	470	5%	1/10W
R59	1-216-043-00	METAL GLAZE	560	5%	1/10W
R60	1-216-043-00	METAL GLAZE	560	5%	1/10W
R61	1-216-295-00	METAL GLAZE	0	5%	1/10W
R63	1-216-043-00	METAL GLAZE	560	5%	1/10W
R71	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R72	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R73	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R74	1-216-079-00	METAL GLAZE	18K	5%	1/10W
R75	1-216-079-00	METAL GLAZE	18K	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R76	1-216-025-00	METAL GLAZE	100	5%	1/10W
R77	1-216-174-00	METAL GLAZE	100	5%	1/8W
R81	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R82	1-216-121-00	METAL GLAZE	1M	5%	1/10W
R83	1-216-025-00	METAL GLAZE	100	5%	1/10W
R84	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R85	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R86	1-216-689-00	METAL GLAZE	39K	5%	1/10W
R87	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R88	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R89	1-216-095-00	METAL GLAZE	82K	5%	1/10W
R90	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R91	1-216-295-00	METAL GLAZE	0	5%	1/10W
R92	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R93	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R94	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R95	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R96	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W
R97	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R98	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R99	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R100	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R102	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R103	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R104	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R105	1-216-033-00	METAL GLAZE	220	5%	1/10W
R121	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R122	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R123	1-216-041-00	METAL GLAZE	470	5%	1/10W
R124	1-216-041-00	METAL GLAZE	470	5%	1/10W
R125	1-216-041-00	METAL GLAZE	470	5%	1/10W
R301	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R302	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R303	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R304	1-216-037-00	METAL GLAZE	330	5%	1/10W
R305	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R306	1-216-025-00	METAL GLAZE	100	5%	1/10W
R307	1-216-037-00	METAL GLAZE	330	5%	1/10W
R308	1-216-037-00	METAL GLAZE	330	5%	1/10W

< VARIABLE RESISTOR >

RV2	1-241-120-11	RES, ADJ, CARBON 2.2K

< TRANSFORMER >

T1	1-404-806-21	COIL
T3	1-416-012-11	COIL
T4	1-416-012-11	COIL
T5	1-402-720-11	COIL

< CRYSTAL >

X1	1-579-648-21	VIBRATOR, CERAMIC

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*A-1635-015-A M2 BOARD, COMPLETE
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< CAPACITOR >

C001	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C002	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C003	1-163-117-00	CERAMIC CHIP 100PF	5%	50V

M2

REF.NO.	PART NO.	DESCRIPTION		REMARK
C004	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C007	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C008	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C010	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C011	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C012	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C014	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C016	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C017	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C018	1-164-505-11	CERAMIC CHIP 2.2MF		16V
C019	1-124-916-11	ELECT 22MF	20%	50V
C020	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C021	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C022	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C023	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C024	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C025	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C026	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C032	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C035	1-163-033-00	CERAMIC CHIP 0.022MF		50V
C036	1-164-005-11	CERAMIC CHIP 0.47MF		25V
C037	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C039	1-163-011-11	CERAMIC CHIP 0.0015MF	10%	50V
C042	1-162-638-11	CERAMIC CHIP 1MF		16V
C044	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C522	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C523	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C524	1-163-113-00	CERAMIC CHIP 68PF	5%	50V
C525	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C528	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C529	1-163-169-00	CERAMIC CHIP 33PF	5%	50V
C541	1-164-232-11	CERAMIC CHIP 0.01MF	10%	50V
C542	1-163-037-11	CERAMIC CHIP 0.022MF	10%	25V
C543	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V
C544	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V
C546	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C547	1-163-020-00	CERAMIC CHIP 0.0082MF	10%	50V
C549	1-163-989-11	CERAMIC CHIP 0.033MF	10%	25V
C550	1-163-141-00	CERAMIC CHIP 0.001MF	5%	50V
C559	1-164-004-11	CERAMIC CHIP 0.1MF	10%	25V
C560	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V
C563	1-163-031-11	CERAMIC CHIP 0.01MF		50V
C564	1-163-031-11	CERAMIC CHIP 0.01MF		50V
C565	1-163-031-11	CERAMIC CHIP 0.01MF		50V
C566	1-163-031-11	CERAMIC CHIP 0.01MF		50V
C567	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C568	1-163-009-11	CERAMIC CHIP 0.001MF	10%	50V
C569	1-164-161-11	CERAMIC CHIP 0.0022MF	10%	50V
C570	1-162-568-11	CERAMIC CHIP 0.33MF	10%	16V
C2001	1-163-235-11	CERAMIC CHIP 22PF	5%	50V
C2002	1-163-235-11	CERAMIC CHIP 22PF	5%	50V
C2004	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C2005	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C2006	1-163-038-00	CERAMIC CHIP 0.1MF		25V
C2008	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C2009	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C2016	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C2017	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C2018	1-164-505-11	CERAMIC CHIP 2.2MF		16V
C2019	1-124-916-11	ELECT 22MF	20%	50V

REF.NO.	PART NO.	DESCRIPTION		REMARK
C2020	1-164-222-11	CERAMIC CHIP 0.22MF		25V
C2021	1-163-113-00	CERAMIC CHIP 68PF	5%	50V
C2023	1-124-907-11	ELECT 10MF	20%	50V
C2024	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C2025	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C2027	1-164-222-11	CERAMIC CHIP 0.22MF		25V
		< FILTER >		
CD001	1-579-126-11	VIBRATOR, CERAMIC		
		< CONNECTOR >		
CN1413	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P		
CN1426	*1-568-881-51	PIN, CONNECTOR 6P		
CN1432	*1-568-882-51	PIN, CONNECTOR 7P		
CN1435	*1-568-882-51	PIN, CONNECTOR 7P		
		< DIODE >		
D001	8-719-027-82	DIODE MA3039H-TX		
D2001	8-719-036-58	DIODE MA3030-H(TX)		
D2002	8-719-401-31	DIODE MA3047L-TX		
D2003	8-719-914-44	DIODE DAP202K		
D2007	8-719-914-44	DIODE DAP202K		
		< IC >		
IC001	8-759-168-52	IC SDA30C162-GEG		
IC002	8-759-167-62	IC TMS27PC010A-15FML		
	1-750-797-11	SOCKET, PLCC (IC002)		
IC561	8-752-347-92	IC CXD2018Q		
IC562	8-759-998-98	IC LM358D		
IC563	8-759-708-05	IC NJM78L05A		
IC2003	8-759-188-60	IC MB81C4256A-70PSZG		
		< COIL >		
L001	1-408-421-00	INDUCTOR 100UH		
L561	1-408-409-00	INDUCTOR 10UH		
L562	1-408-409-00	INDUCTOR 10UH		
L563	1-408-947-00	INDUCTOR 2.2MMH		
L2001	1-410-674-31	INDUCTOR 82UH		
		< TRANSISTOR >		
Q002	8-729-216-22	TRANSISTOR 2SA1162-G		
Q003	8-729-920-74	TRANSISTOR 2SC2412K-QR		
Q564	8-729-216-22	TRANSISTOR 2SA1162-G		
Q565	8-729-920-74	TRANSISTOR 2SC2412K-QR		
Q566	8-729-920-74	TRANSISTOR 2SC2412K-QR		
Q567	8-729-901-01	TRANSISTOR DTC144EK		
Q2001	8-729-920-74	TRANSISTOR 2SC2412K-QR		
Q2002	8-729-920-74	TRANSISTOR 2SC2412K-QR		
Q2003	8-729-216-22	TRANSISTOR 2SA1162-G		
Q2004	8-729-920-74	TRANSISTOR 2SC2412K-QR		
Q2005	8-729-920-74	TRANSISTOR 2SC2412K-QR		
Q2006	8-729-901-01	TRANSISTOR DTC144EK-T146		
Q2008	8-729-901-00	TRANSISTOR DTC124EK-T146		
		< RESISTOR >		
JR552	1-216-296-00	METAL GLAZE 0	5%	1/8W
JR553	1-216-295-00	METAL GLAZE 0	5%	1/10W
JR555	1-216-296-00	METAL GLAZE 0	5%	1/8W
R001	1-216-025-00	METAL GLAZE 100	5%	1/10W
R002	1-216-025-00	METAL GLAZE 100	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R003	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R004	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R005	1-216-295-00	METAL GLAZE	0	5%	1/10W
R006	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R007	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R008	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R010	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R011	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R012	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R013	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R014	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R016	1-216-045-00	METAL GLAZE	680	5%	1/10W
R017	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R018	1-216-041-00	METAL GLAZE	470	5%	1/10W
R019	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R020	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R021	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R022	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R023	1-216-025-00	METAL GLAZE	100	5%	1/10W
R024	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R025	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R026	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R027	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R028	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R030	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R032	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R033	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R034	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R035	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R038	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R049	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R050	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R051	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R052	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R053	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R054	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R055	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R067	1-216-043-00	METAL GLAZE	560	5%	1/10W
R068	1-216-043-00	METAL GLAZE	560	5%	1/10W
R069	1-216-037-00	METAL GLAZE	330	5%	1/10W
R070	1-216-037-00	METAL GLAZE	330	5%	1/10W
R071	1-216-198-91	METAL GLAZE	1K	5%	1/8W
R535	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R536	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R538	1-216-025-00	METAL GLAZE	100	5%	1/10W
R539	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R541	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R542	1-216-025-00	METAL GLAZE	100	5%	1/10W
R544	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R545	1-216-033-00	METAL GLAZE	220	5%	1/10W
R546	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W
R547	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R551	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R552	1-216-097-00	METAL GLAZE	100K	5%	1/10W
R553	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R559	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R560	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R564	1-216-091-00	METAL GLAZE	56K	5%	1/10W
R565	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R566	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R567	1-216-085-00	METAL GLAZE	33K	5%	1/10W
R568	1-216-109-00	METAL GLAZE	330K	5%	1/10W
R570	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R2001	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R2002	1-216-043-00	METAL GLAZE	560	5%	1/10W
R2003	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R2004	1-216-037-00	METAL GLAZE	330	5%	1/10W
R2005	1-216-041-00	METAL GLAZE	470	5%	1/10W
R2007	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R2008	1-216-025-00	METAL GLAZE	100	5%	1/10W
R2009	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R2010	1-216-025-00	METAL GLAZE	100	5%	1/10W
R2011	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R2012	1-216-029-00	METAL GLAZE	150	5%	1/10W
R2013	1-216-029-00	METAL GLAZE	150	5%	1/10W
R2014	1-216-029-00	METAL GLAZE	150	5%	1/10W
R2015	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R2016	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R2017	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2018	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2019	1-216-081-00	METAL GLAZE	22K	5%	1/10W
R2020	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R2021	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W
R2025	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R2026	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W
R2028	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R2030	1-216-295-00	METAL GLAZE	0	5%	1/10W
R2032	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R2033	1-216-295-00	METAL GLAZE	0	5%	1/10W
R2035	1-216-075-00	METAL GLAZE	12K	5%	1/10W
R2036	1-216-049-00	METAL GLAZE	1K	5%	1/10W
R2037	1-216-049-00	METAL GLAZE	1K	5%	1/10W

< CRYSTAL >

X2001	1-579-965-21	VIBRATOR, CRYSTAL

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*A-1638-042-A C BOARD, COMPLETE
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< CAPACITOR >

C701	1-162-114-00	CERAMIC	0.0047MF		2KV
C703	1-123-946-00	ELECT	4.7MF	20%	250V
C705	1-162-116-00	CERAMIC	680PF	10%	2KV
C708	1-163-197-00	CERAMIC CHIP	470PF	10%	50V
C709	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C710	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C711	1-101-880-00	CERAMIC	47PF	5%	50V
C712	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C713	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C714	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C716	1-124-478-11	ELECT	100MF	20%	25V

< CONNECTOR >

CN0002	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
CN0403	1-564-511-11	PLUG, CONNECTOR 8P
CN0421	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

C D5

REF.NO.	PART NO.	DESCRIPTION				REMARK
		< DIODE >				
D701	8-719-901-33	DIODE 1SS133				
D702	8-719-901-33	DIODE 1SS133				
D703	8-719-901-33	DIODE 1SS133				
D704	8-719-901-33	DIODE 1SS133				
D705	8-719-901-33	DIODE 1SS133				
D706	8-719-901-33	DIODE 1SS133				
D707	8-719-901-33	DIODE 1SS133				
D708	8-719-901-33	DIODE 1SS133				
D709	8-719-901-33	DIODE 1SS133				
D710	8-719-901-33	DIODE 1SS133				
D713	8-719-908-03	DIODE GP08D				
		< JACK >				
J701 ⚠	1-526-990-21	SOCKET, CRT				
		< COIL >				
L701	1-410-667-31	INDUCTOR	22UH			
L703	1-408-609-41	INDUCTOR	33UH			
L705	1-408-609-41	INDUCTOR	33UH			
L707	1-408-609-41	INDUCTOR	33UH			
		< TRANSISTOR >				
Q701	8-729-906-70	TRANSISTOR BF871				
Q702	8-729-906-70	TRANSISTOR BF871				
Q703	8-729-906-70	TRANSISTOR BF871				
Q704	8-729-906-70	TRANSISTOR BF871				
Q705	8-729-906-70	TRANSISTOR BF871				
Q706	8-729-906-70	TRANSISTOR BF871				
Q707	8-729-200-17	TRANSISTOR 2SA1091-O				
Q708	8-729-200-17	TRANSISTOR 2SA1091-O				
Q709	8-729-200-17	TRANSISTOR 2SA1091-O				
Q710	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q711	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q712	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q713	8-729-216-22	TRANSISTOR 2SA1162-G				
Q714	8-729-255-12	TRANSISTOR 2SC2551-O				
		< RESISTOR >				
JR701	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR703	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R701	1-202-848-00	SOLID	680K	10%	1/2W	
R702	1-202-838-00	SOLID	100K	20%	1/2W	
R703	1-202-838-00	SOLID	100K	20%	1/2W	
R704	1-202-842-11	SOLID	220K	10%	1/2W	
R705	1-216-398-11	METAL OXIDE	5.6	5%	3W	F
R706	1-216-398-11	METAL OXIDE	5.6	5%	3W	F
R707	1-249-421-11	CARBON	2.2K	5%	1/4W	
R708	1-249-421-11	CARBON	2.2K	5%	1/4W	
R709	1-249-421-11	CARBON	2.2K	5%	1/4W	
R710	1-215-899-11	METAL OXIDE	15K	5%	2W	F
R711	1-202-820-11	SOLID	1.5K	20%	1/2W	
R712	1-215-899-11	METAL OXIDE	15K	5%	2W	F
R713	1-202-820-11	SOLID	1.5K	20%	1/2W	
R714	1-215-899-11	METAL OXIDE	15K	5%	2W	F
R715	1-202-820-11	SOLID	1.5K	20%	1/2W	
R716	1-247-700-11	CARBON	100	5%	1/4W	F
R717	1-247-807-31	CARBON	100	5%	1/4W	F
R718	1-247-700-11	CARBON	100	5%	1/4W	F
R720	1-249-417-11	CARBON	1K	5%	1/4W	F
R722	1-247-713-11	CARBON	1K	5%	1/4W	F
R724	1-249-417-11	CARBON	1K	5%	1/4W	F
R725	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R726	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R727	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R728	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R729	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R730	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R731	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R732	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R733	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R734	1-202-549-00	SOLID	100	20%	1/2W	
R735	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R738	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R739	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R740	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R741	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R742	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R743	1-249-434-11	CARBON	27K	5%	1/4W	
R747	1-216-489-11	METAL OXIDE	27K	5%	3W	F
R749	1-216-490-11	METAL OXIDE	39K	5%	3W	F
R751	1-215-926-00	METAL OXIDE	33K	5%	3W	F
R753	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R758	1-249-419-11	CARBON	1.5K	5%	1/4W	
R759	1-249-419-11	CARBON	1.5K	5%	1/4W	
R760	1-249-419-11	CARBON	1.5K	5%	1/4W	
		< VARIABLE RESISTOR >				
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M				
RV702	1-241-656-11	RES, ADJ, METAL FILM 110M				

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*A-1640-109-A D5 BOARD, COMPLETE
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		< CAPACITOR >				
C803	1-164-695-11	CERAMIC CHIP	0.0022MF	5%	50V	
C804	1-136-161-00	FILM	0.047MF	5%	50V	
C806	1-124-907-11	ELECT	10MF	20%	50V	
C807	1-106-383-00	MYLAR	0.047MF	10%	100V	
C823	1-136-177-00	FILM	1MF	5%	50V	
C827	1-136-177-00	FILM	1MF	5%	50V	
C847	1-164-337-11	CERAMIC CHIP	2.2MF		16V	
C852	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V	
C853	1-124-477-11	ELECT	47MF	20%	25V	
C857	1-124-902-00	ELECT	0.47MF	20%	50V	
C861	1-130-777-00	FILM	0.1MF	5%	63V	
C866	1-137-364-11	FILM	0.001MF	5%	50V	
C870	1-137-364-11	FILM	0.001MF	5%	50V	
C871	1-130-651-00	FILM	0.001MF	2%	100V	
C872	1-124-907-11	ELECT	10MF	20%	50V	
C873	1-137-364-11	FILM	0.001MF	5%	50V	
		< CONNECTOR >				
CN2044	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P				
		< DIODE >				
D804	8-719-901-33	DIODE 1SS133				

REF.NO.	PART NO.	DESCRIPTION				REMARK
D808	8-719-109-88	DIODE RD5.6ESB1				
D818	8-719-109-93	DIODE RD6.2ESB2				
D821	8-719-914-44	DIODE DAP202K				
D827	8-719-982-96	DIODE MTZJ-T-77-2.2A				
D830	8-719-914-44	DIODE DAP202K				
D831	8-719-914-43	DIODE DAN202K				
D832	8-719-914-44	DIODE DAP202K				
D833	8-719-914-44	DIODE DAP202K				
		< IC >				
IC802	8-759-103-93	IC UPC393C				
		< TRANSISTOR >				
Q804	8-729-216-22	TRANSISTOR 2SA1162-G				
Q805	8-729-216-22	TRANSISTOR 2SA1162-G				
Q812	8-729-920-74	TRANSISTOR 2SC2412K-QR				
Q818	8-729-216-22	TRANSISTOR 2SA1162-G				
		< RESISTOR >				
JR802	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR803	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR804	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R802	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R805	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R806	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R808	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R809	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R813	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R814	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R815	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R820	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R824	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R828	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R829	1-249-429-11	CARBON	10K	5%	1/4W	F
R830	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R832	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R834	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R835	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R837	1-216-695-11	METAL CHIP	68K	0.50%	1/10W	
R838	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R846	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R847	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R867	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R884	1-216-693-11	METAL CHIP	56K	0.50%	1/10W	
R891	1-216-079-00	METAL GLAZE	18K	5%	1/10W	

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*A-1642-097-A D BOARD, COMPLETE
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REF.NO.	PART NO.	DESCRIPTION			REMARK
		< CAPACITOR >			
C601	1-130-202-00	FILM	0.022MF	10%	400V
C602	1-162-116-00	CERAMIC	680PF	10%	2KV
C603	1-164-503-61	CERAMIC	0.0022MF	20%	400V
C605	1-124-910-11	ELECT	47MF	20%	50V
C608	1-124-903-11	ELECT	1MF	20%	50V
C611	1-102-002-00	CERAMIC	680PF	10%	500V
C612	1-130-481-00	FILM	0.0068MF	5%	50V
C613	1-129-722-00	FILM	0.047MF	10%	630V
C614	1-102-030-00	CERAMIC	330PF	10%	500V
C615	1-128-127-51	ELECT	2200MF	20%	25V
C616	1-162-115-00	CERAMIC	330PF	10%	1KV
C617	1-162-116-00	CERAMIC	680PF	10%	2KV
C618	1-162-134-11	CERAMIC	470PF	10%	2KV
C619	1-102-030-00	CERAMIC	330PF	10%	500V
C620	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V
C621	1-124-347-00	ELECT	100MF	20%	160V
C622	1-128-320-11	ELECT	2200MF	20%	16V
C623	1-102-030-00	CERAMIC	330PF	10%	500V
C624	1-126-800-51	ELECT	2200MF	20%	35V
C625	1-126-800-51	ELECT	2200MF	20%	35V
C627	1-136-553-11	FILM	0.0015MF	10%	400V
C628	1-124-477-11	ELECT	47MF	20%	25V
C629	1-124-907-11	ELECT	10MF	20%	50V
C631	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V
C632	1-137-372-11	FILM	0.022MF	5%	50V
C633	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V
C636	1-130-777-00	FILM	0.1MF	5%	63V
C640	1-124-916-11	ELECT	22MF	20%	50V
C645	1-128-571-11	ELECT	56MF	20%	50V
C646	1-124-798-11	ELECT	1MF	20%	160V
C647	1-124-907-11	ELECT	10MF	20%	50V
C801	1-137-116-11	FILM	1MF	5%	200V
C805	1-124-902-00	ELECT	0.47MF	20%	50V
C808	1-162-114-00	CERAMIC	0.0047MF		2KV
C809	1-124-808-51	ELECT	10MF	20%	200V
C810	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C812	1-162-318-11	CERAMIC	0.001MF	10%	500V
C813	1-108-704-11	MYLAR	0.1MF	10%	200V
C815	1-162-117-00	CERAMIC	100PF	10%	500V
C819	1-126-103-11	ELECT	470MF	20%	16V
C821	1-137-063-11	FILM	0.018MF	3%	0
C822	1-162-116-00	CERAMIC	680PF	10%	2KV
C824	1-137-366-11	FILM	0.0022MF	5%	50V
C825	1-162-116-00	CERAMIC	680PF	10%	2KV
C826	1-137-515-11	FILM	0.056MF	3%	400V
C828	1-136-557-11	FILM	0.0033MF	10%	400V
C830	1-136-189-00	FILM	0.1MF	5%	250V
C831	1-123-932-00	ELECT	4.7MF	20%	160V
C832	1-124-477-11	ELECT	47MF	20%	25V
C833	1-136-126-00	FILM	0.82MF	5%	400V
C834	1-137-114-11	FILM	0.68MF	5%	200V
C835	1-124-480-11	ELECT	470MF	20%	25V
C836	1-102-228-00	CERAMIC	470PF	10%	500V
C837	1-129-702-00	FILM	0.001MF	10%	400V
C838	1-108-704-11	MYLAR	0.1MF	10%	200V
C839	1-123-950-00	ELECT	47MF	20%	250V
C840	1-124-480-11	ELECT	470MF	20%	25V
C841	1-102-228-00	CERAMIC	470PF	10%	500V
C842	1-136-208-11	FILM	0.068MF	10%	250V
C843	1-124-907-11	ELECT	10MF	20%	50V
C846	1-123-024-21	ELECT	33MF		160V
C851	1-137-364-11	FILM	0.001MF	5%	50V
C854	1-161-754-00	CERAMIC	0.001MF	10%	2KV
C863	1-106-383-00	MYLAR	0.047MF	10%	100V
C869	1-130-777-00	FILM	0.1MF	5%	63V
C875	1-102-038-00	CERAMIC	0.001MF		500V
C877	1-124-902-00	ELECT	0.47MF	20%	50V
C878	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C879	1-102-228-00	CERAMIC	470PF	10%	500V

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

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REF.NO.	PART NO.	DESCRIPTION	REMARK
C882	1-106-383-00	MYLAR 0.047MF 10%	100V
C1501	1-163-141-00	CERAMIC CHIP 0.001MF 5%	50V
C1502	1-124-903-11	ELECT 1MF 20%	50V
C1503	1-163-141-00	CERAMIC CHIP 0.001MF 5%	50V
C1504	1-124-480-11	ELECT 470MF 20%	25V
C1505	1-124-911-11	ELECT 220MF 20%	50V
C1506	1-136-202-11	FILM 0.33MF 5%	63V
C1507	1-137-423-11	MYLAR 0.15MF 10%	100V
C1508	1-124-480-11	ELECT 470MF 20%	25V
C1509	1-124-767-00	ELECT 2.2MF 20%	50V
C1511	1-124-907-11	ELECT 10MF 20%	50V
C1512	1-124-006-11	ELECT 10MF 20%	25V
C1514	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C1515	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V

< CONNECTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
DY1	*1-580-798-11	CONNECTOR PIN (DY) 6P	
CN0004	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN0009	1-568-878-51	PIN, CONNECTOR 3P	
CN0504	1-564-511-11	PLUG, CONNECTOR 8P	
CN0505	*1-568-880-51	PIN, CONNECTOR 5P	
CN0506	*1-568-880-51	PIN, CONNECTOR 5P	
CN0519	*1-568-878-51	PIN, CONNECTOR 3P	
CN0521	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CN0523	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
CN0524	*1-568-878-51	PIN, CONNECTOR 3P	
CN0525	*1-695-294-11	PIN, CONNECTOR (PC BOARD) 6P	
CN0526	*1-568-881-51	PIN, CONNECTOR 6P	
CN0529	1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN0544	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
CN5521	*1-568-878-51	PIN, CONNECTOR 3P	

< DIODE >

REF.NO.	PART NO.	DESCRIPTION	REMARK
D601	8-719-914-44	DIODE DAP202K	
D602	8-719-302-43	DIODE RGP10GPKG23	
D604	8-719-110-39	DIODE RD15ESB1	
D605	8-719-975-56	DIODE 1SS120A	
D606	8-719-302-43	DIODE RGP10GPKG23	
D607	8-719-302-43	DIODE RGP10GPKG23	
D608	8-719-300-33	DIODE RU-3AM	
D616	8-719-110-31	DIODE RD12ESB2	
D619	8-719-914-43	DIODE DAN202K	
D620	8-719-901-33	DIODE 1SS133	
D621	8-719-302-43	DIODE EL1Z	
D624	8-719-312-39	DIODE R2K-V1	
D801	8-719-018-82	DIODE RGP02-20EL-6394	
D802	8-719-302-43	DIODE EL1Z	
D803	8-719-982-27	DIODE MTZJ-33C	
D809	8-719-110-03	DIODE RD7.5ESB2	
D811	8-719-300-33	DIODE ERB44-06TP1	
D812	8-719-908-03	DIODE GP08D	
D813	8-719-908-03	DIODE GP08D	
D814	8-719-028-29	DIODE RU30ALFS1	
D815	8-719-302-43	DIODE EL1Z	
D816	8-719-979-85	DIODE EGP20G	
D822	8-719-982-20	DIODE MTZJ-30B	
D824	8-719-028-72	DIODE RGP02-17EL-6433	
D825	8-719-914-43	DIODE DAN202K	
D826	8-719-914-43	DIODE DAN202K	
D828	8-719-901-33	DIODE 1SS133	
D1501	8-719-914-43	DIODE DAN202K	
D1503	8-719-908-03	DIODE GP08D	
D1504	8-719-982-03	DIODE MTZJ-3.6A	

< IC >

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC601	8-759-073-29	IC TDA4605-3	
IC602	8-759-908-15	IC TL431CLP	
IC603 ⚠	8-749-923-44	IC SFH617G-1	
IC801	8-759-103-93	IC UPC393C	
IC803	8-759-081-31	IC MC78L12ACPRP	
IC1501	8-759-506-46	IC STV9879	

< COIL >

REF.NO.	PART NO.	DESCRIPTION	REMARK
L602	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
L603	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
L604	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
L605	1-412-528-11	INDUCTOR 18UH	
L606	1-412-528-11	INDUCTOR 18UH	
L610	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
L622	1-412-533-21	INDUCTOR 47UH	
L623	1-412-533-21	INDUCTOR 47UH	
L802	1-408-947-00	INDUCTOR 2.2MMH	
L803	1-420-872-00	COIL, AIR CORE	
L804	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
L807	1-412-540-31	INDUCTOR 180UH	
L808	1-412-552-31	INDUCTOR 2.2MMH	
L809	1-459-104-00	COIL, WITH CORE	
L810	1-460-197-21	COIL, FERRITE (PMC)	
L811	1-412-519-11	INDUCTOR 3.3UH	
L812	1-412-519-11	INDUCTOR 3.3UH	
L813	1-412-519-11	INDUCTOR 3.3UH	
L817	1-423-963-11	TRANSFORMER, LINEARITY (HLT)	
L818	1-459-104-00	COIL, WITH CORE	
L1501	1-412-525-21	INDUCTOR 10UH	
L1502	1-412-525-21	INDUCTOR 10UH	
L1503	1-412-525-21	INDUCTOR 10UH	

< IC LINK >

REF.NO.	PART NO.	DESCRIPTION	REMARK
PS601 ⚠	1-532-686-91	LINK, IC 2.7A	
PS602 ⚠	1-532-686-91	LINK, IC 2.7A	
PS603 ⚠	1-532-686-91	LINK, IC 2.7A	
PS604 ⚠	1-532-686-91	LINK, IC 2.7A	

< TRANSISTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q601	8-729-016-14	TRANSISTOR BUZ91A-E3155	
	4-200-001-01	HOLDER, IC (IC601)	
Q602	8-729-177-22	TRANSISTOR 2SB772-Q	
Q603	8-729-900-53	TRANSISTOR DTC114EK	
Q604	8-729-209-15	TRANSISTOR 2SD2012	
Q605	8-729-255-12	TRANSISTOR 2SC2551-O	
Q606	8-729-216-22	TRANSISTOR 2SA1162-G	
Q611	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q612	8-729-903-29	TRANSISTOR DTA144TK	
Q613	8-729-216-22	TRANSISTOR 2SA1162-G	
Q802	8-729-140-97	TRANSISTOR 2SB734-34	
Q807	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q813	8-729-140-96	TRANSISTOR 2SD774-34	
Q1501	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1502	8-729-901-01	TRANSISTOR DTC144EK	

The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
Q1503	8-729-216-22	TRANSISTOR 2SA1162-G				
Q1504	8-729-901-01	TRANSISTOR DTC144EK				

< RESISTOR >

REF.NO.	PART NO.	DESCRIPTION				REMARK
R602	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R603	1-215-901-00	METAL OXIDE	33K	5%	2W	F
R604	1-260-200-11	CARBON	240K	5%	1/2W	
R605	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R606	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R607	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W	
R608	1-215-903-11	METAL OXIDE	68K	5%	2W	F
R609	1-249-395-11	CARBON	15	5%	1/4W	
R610	1-247-881-00	CARBON	120K	5%	1/4W	
R611	1-215-886-11	METAL OXIDE	100	5%	2W	F
R612	1-247-894-11	CARBON	430K	5%	1/4W	
R613	1-216-260-11	METAL GLAZE	390K	5%	1/8W	
R614	1-216-488-11	METAL OXIDE	18K	5%	3W	F
R615	1-216-488-11	METAL OXIDE	18K	5%	3W	F
R618	1-216-449-11	METAL OXIDE	56	5%	2W	F
R620	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R621	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R622	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R623	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R625	1-216-449-11	METAL OXIDE	56	5%	2W	F
R626	1-216-635-11	METAL CHIP	220	0.50%	1/10W	
R627	1-249-398-11	CARBON	27	5%	1/4W	F
R629	1-215-464-00	METAL	62K	1%	1/4W	
R630	1-249-421-11	CARBON	2.2K	5%	1/4W	
R631	1-216-398-11	METAL OXIDE	5.6	5%	3W	F
R633	1-249-415-11	CARBON	680	5%	1/4W	
R634	1-215-477-00	METAL	220K	1%	1/4W	
R635	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R636	1-215-925-11	METAL OXIDE	22K	5%	3W	F
R637	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R638	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R639	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R640	1-207-905-00	WIREWOUND	0.27	10%	2W	F
R642	1-216-374-00	METAL OXIDE	2.7	5%	2W	F
R643	1-249-417-11	CARBON	1K	5%	1/4W	
R645	1-215-464-00	METAL	62K	1%	1/4W	
R646	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R647	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R648	1-249-424-11	CARBON	3.9K	5%	1/4W	
R649	1-216-270-00	METAL GLAZE	1M	5%	1/8W	
R650	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R651	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R652	1-216-109-00	METAL GLAZE	330K	5%	1/10W	
R653	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R654	1-215-904-11	METAL OXIDE	100K	5%	2W	F
R655	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R656	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R657	1-247-811-31	CARBON	150	5%	1/4W	
R658	1-249-403-11	CARBON	68	5%	1/4W	
R801	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R804	1-217-778-11	FUSIBLE	1K	5%	1W	F
R807	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R811	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R812	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R818	1-216-685-11	METAL CHIP	27K	0.50%	1/10W	
R819	1-247-755-11	CARBON	1.8K	5%	1/2W	F
R821	1-216-481-11	METAL OXIDE	1.2K	5%	3W	F
R822	1-216-481-11	METAL OXIDE	1.2K	5%	3W	F
R823	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R825	1-216-342-11	METAL OXIDE	0.27	5%	1W	F
R826	1-216-166-00	METAL GLAZE	47	5%	1/8W	
R833	1-216-105-00	METAL GLAZE	220K	5%	1/10W	
R836	1-216-242-00	METAL GLAZE	68K	5%	1/8W	
R839	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R840	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R841	1-249-397-11	CARBON	22	5%	1/4W	F
R842	1-216-454-11	METAL OXIDE	390	5%	2W	F
R848	1-215-885-00	METAL OXIDE	68	5%	2W	F
R849	1-215-884-11	METAL OXIDE	47	5%	2W	F
R851	1-247-743-11	CARBON	220	5%	1/2W	F
R852	1-249-389-11	CARBON	4.7	5%	1/4W	F
R853	1-249-443-11	CARBON	0.47	5%	1/4W	F
R854	1-249-443-11	CARBON	0.47	5%	1/4W	F
R855	1-202-826-00	SOLID	4.7K	20%	1/2W	
R858	1-249-423-11	CARBON	3.3K	5%	1/4W	
R864	1-216-686-11	METAL CHIP	30K	0.50%	1/10W	
R868	1-249-426-11	CARBON	5.6K	5%	1/4W	
R871	1-214-907-00	METAL	56K	1%	1/2W	
R872	1-249-393-11	CARBON	10	5%	1/4W	F
R873	1-249-393-11	CARBON	10	5%	1/4W	F
R876	1-249-421-11	CARBON	2.2K	5%	1/4W	
R877	1-215-907-11	METAL OXIDE	22	5%	3W	F
R889	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R893	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R894	1-216-264-00	METAL GLAZE	560K	5%	1/8W	
R895	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R897	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R898	1-216-262-00	METAL GLAZE	470K	5%	1/8W	
R899	1-249-377-11	CARBON	0.47	5%	1/4W	F
R1501	1-216-676-11	METAL CHIP	11K	0.50%	1/10W	
R1502	1-216-666-11	METAL CHIP	4.3K	0.50%	1/10W	
R1503	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1504	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1505	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1506	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1508	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R1509	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	
R1510	1-249-382-11	CARBON	1.2	5%	1/4W	F
R1511	1-215-888-00	METAL OXIDE	220	5%	2W	F
R1512	1-216-370-11	METAL OXIDE	1.2	5%	2W	F
R1514	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1550	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1551	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1552	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
FS046	1-249-399-11	CARBON	33	5%	1/4W	F

< VARIABLE RESISTOR >

REF.NO.	PART NO.	DESCRIPTION
RV601	1-241-628-11	RES, ADJ, CARBON 2.2K

< TRANSFORMER >

REF.NO.		PART NO.	DESCRIPTION
T601	⚠	1-423-738-11	S.R.T (SMT89)
T801	⚠	1-453-153-11	TRANSFORMER ASSY, FLYBACK (NX-JU2602A2)
T803		1-437-090-00	HDT
T895		1-413-059-00	TRANSFORMER, FERRITE (DFT)

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D4 VM

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1642-116-A	D4 BOARD, COMPLETE ******************	
		< CAPACITOR >	
C1841	1-137-371-11	FILM 0.015MF 5% 50V	
C1844	1-106-383-00	MYLAR 0.047MF 5% 200V	
C1845	1-130-785-11	MYLAR 0.47MF 10% 100V	
C1851	1-126-103-11	ELECT 470MF 20% 16V	
C1854	1-124-910-11	ELECT 47MF 20% 50V	
C1855	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1858	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C1859	1-163-275-11	CERAMIC CHIP 0.001MF 5% 50V	
C1860	1-163-989-11	CERAMIC CHIP 0.033MF 10% 25V	
C1861	1-163-989-11	CERAMIC CHIP 0.033MF 10% 25V	
C1862	1-124-657-00	ELECT 10MF 20% 50V	
C1863	1-136-104-00	FILM 0.16MF 5% 200V	
C1867	1-126-103-11	ELECT 470MF 20% 16V	
C1892	1-163-989-11	CERAMIC CHIP 0.033MF 10% 25V	
		< CONNECTOR >	
CN1823	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P	
CN1841	*1-568-878-51	PIN, CONNECTOR 3P	
CN1842	1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
		< DIODE >	
D1840	8-719-302-43	DIODE EL1Z	
D1841	8-719-914-43	DIODE DAN202K	
D1856	8-719-914-43	DIODE DAN202K	
D1867	8-719-987-87	DIODE ERA85-009TP3	
D1868	8-719-987-87	DIODE ERA85-009	
D1882	8-719-109-89	DIODE RD5.6ESB2	
D1883	8-719-109-89	DIODE RD5.6ESB2	
		< IC >	
IC1851	8-759-708-05	IC NJM78L05A	
IC1852	8-759-135-80	IC UPC358C	
IC1853	8-759-902-21	IC SN74LS221N	
		< COIL >	
L1841	1-459-075-00	COIL,DYNAMIC CONVERSION CHOKE	
L1843	1-459-104-00	COIL, WITH CORE	
L1852	1-459-390-00	COIL (WITH CORE)	
		< TRANSISTOR >	
Q1840	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1841	8-729-195-82	TRANSISTOR 2SC2958-L	
Q1851	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1854	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1855	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1856	8-729-017-05	TRANSISTOR 2SA1837	
Q1857	8-729-122-03	TRANSISTOR 2SA1220A-P	
Q1858	8-729-920-92	TRANSISTOR 2SD2096-EF	
Q1859	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1860	8-729-920-74	TRANSISTOR 2SC2412K-QR	
Q1861	8-729-017-06	TRANSISTOR 2SC4793	
		< RESISTOR >	
JR1851	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R1841	1-216-085-00	METAL GLAZE 33K 5% 1/10W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1842	1-260-111-11	CARBON 10K 5% 1/2W	
R1843	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1844	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1847	1-249-399-11	CARBON 33 5% 1/4W	F
R1848	1-216-434-11	METAL OXIDE 1.8K 5% 1W	F
R1849	1-260-111-11	CARBON 10K 5% 1/2W	
R1852	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R1853	1-216-691-11	METAL CHIP 47K 0.50% 1/10W	
R1854	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1860	1-216-021-00	METAL GLAZE 68 5% 1/10W	
R1861	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1862	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R1863	1-218-758-11	METAL CHIP 180K 0.50% 1/10W	
R1873	1-216-474-11	METAL OXIDE 82 5% 3W	F
R1875	1-216-683-11	METAL CHIP 22K 0.50% 1/10W	
R1877	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1878	1-260-091-11	CARBON 220 5% 1/2W	
R1881	1-260-091-11	CARBON 220 5% 1/2W	
R1882	1-215-869-11	METAL OXIDE 1K 5% 1W	F
R1893	1-216-474-11	METAL OXIDE 82 5% 3W	F
R1894	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1895	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1898	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R1899	1-216-037-00	METAL GLAZE 330 5% 1/10W	
		< VARIABLE RESISTOR >	
RV1851	1-241-765-11	RES, ADJ, CERMET 22K	
RV1853	1-241-628-11	RES, ADJ, CARBON 2.2K	
		< TRANSFORMER >	
T1851	1-423-786-11	TRANSFORMER, FERRITE (VPOT)	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1644-040-A	VM BOARD, COMPLETE ******************	
		< CAPACITOR >	
C1701	1-124-119-00	ELECT 330MF 20% 16V	
C1702	1-101-880-00	CERAMIC 47PF 5% 50V	
C1703	1-102-115-00	CERAMIC 560PF 10% 50V	
C1704	1-161-830-00	CERAMIC 0.0047MF 500V	
C1705	1-124-120-11	ELECT 220MF 20% 16V	
C1706	1-123-935-00	ELECT 33MF 20% 160V	
C1707	1-124-907-11	ELECT 10MF 20% 50V	
C1708	1-101-006-00	CERAMIC 0.047MF 50V	
C1709	1-108-704-11	MYLAR 0.1MF 10% 200V	
C1710	1-136-207-11	FILM 0.047MF 10% 250V	
C1711	1-162-318-11	CERAMIC 0.001MF 10% 500V	
C1712	1-124-799-11	ELECT 2.2MF 20% 160V	
C1713	1-162-318-11	CERAMIC 0.001MF 10% 500V	
C1714	1-136-207-11	FILM 0.047MF 10% 250V	
C1716	1-124-907-11	ELECT 10MF 20% 50V	
C1718	1-124-120-11	ELECT 220MF 20% 16V	
C1719	1-124-927-11	ELECT 4.7MF 20% 50V	
		< CONNECTOR >	
CN1819	*1-568-882-51	PIN, CONNECTOR 7P	
CN1830	*1-568-878-51	PIN, CONNECTOR 3P	

< DIODE >

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1701	8-719-901-33	DIODE 1SS133	
D1702	8-719-901-33	DIODE 1SS133	
D1703	8-719-901-33	DIODE 1SS133	
D1704	8-719-982-37	DIODE MTZJ-39C	
D1705	8-719-982-37	DIODE MTZJ-39C	
D1706	8-719-901-33	DIODE 1SS133	
D1707	8-719-901-33	DIODE 1SS133	

< COIL >

REF.NO.	PART NO.	DESCRIPTION	REMARK
L1702	1-408-418-00	INDUCTOR 56UH	

< TRANSISTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1701	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1702	8-729-173-38	TRANSISTOR 2SA733-K	
Q1703	8-729-017-05	TRANSISTOR 2SA1837	
	*4-368-683-21	SPRING, TRANSISTOR (Q1703)	
Q1704	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1705	8-729-017-06	TRANSISTOR 2SC4793	
	*4-368-683-21	SPRING, TRANSISTOR (Q1705)	
Q1706	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1707	8-729-140-96	TRANSISTOR 2SD774-34	
Q1708	8-729-901-59	TRANSISTOR BF199	
Q1709	8-729-255-12	TRANSISTOR 2SC2551-O	

< RESISTOR >

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1701	1-247-807-31	CARBON	100	5%	1/4W	
R1702	1-249-420-11	CARBON	1.8K	5%	1/4W	
R1703	1-247-807-31	CARBON	100	5%	1/4W	
R1704	1-249-420-11	CARBON	1.8K	5%	1/4W	
R1705	1-247-736-11	CARBON	56	5%	1/2W	F
R1706	1-249-414-11	CARBON	560	5%	1/4W	F
R1707	1-249-412-11	CARBON	390	5%	1/4W	
R1709	1-249-416-11	CARBON	820	5%	1/4W	
R1710	1-249-385-11	CARBON	2.2	5%	1/4W	F
R1711	1-249-432-11	CARBON	18K	5%	1/4W	
R1712	1-249-435-11	CARBON	33K	5%	1/4W	
R1713	1-249-438-11	CARBON	56K	5%	1/4W	
R1714	1-249-429-11	CARBON	10K	5%	1/4W	
R1715	1-216-476-11	METAL OXIDE	180	5%	3W	F
R1716	1-249-417-11	CARBON	1K	5%	1/4W	F
R1717	1-249-432-11	CARBON	18K	5%	1/4W	
R1718	1-249-410-11	CARBON	270	5%	1/4W	
R1719	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1720	1-249-441-11	CARBON	100K	5%	1/4W	
R1721	1-249-414-11	CARBON	560	5%	1/4W	
R1722	1-249-385-11	CARBON	2.2	5%	1/4W	F
R1723	1-249-429-11	CARBON	10K	5%	1/4W	
R1724	1-249-436-11	CARBON	39K	5%	1/4W	
R1725	1-249-417-11	CARBON	1K	5%	1/4W	
R1726	1-249-411-11	CARBON	330	5%	1/4W	
R1727	1-249-402-11	CARBON	56	5%	1/4W	F
R1729	1-216-451-11	METAL OXIDE	120	5%	2W	F
R1731	1-249-420-11	CARBON	1.8K	5%	1/4W	
R1732	1-249-426-11	CARBON	5.6K	5%	1/4W	
R1734	1-249-419-11	CARBON	1.5K	5%	1/4W	

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*1-648-314-11 H1 BOARD, COMPLETE
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< CAPACITOR >

REF.NO.	PART NO.	DESCRIPTION				REMARK
C083	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	
C087	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	

< CONNECTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN1008	*1-564-516-11	PLUG, CONNECTOR 13P	

< COIL >

REF.NO.	PART NO.	DESCRIPTION	REMARK
L081	1-408-409-00	INDUCTOR 10UH	
L082	1-408-409-00	INDUCTOR 10UH	

< RESISTOR >

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR021	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R081	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R082	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R083	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R084	1-216-202-00	METAL GLAZE	1.5K	5%	1/8W	
R085	1-216-202-00	METAL GLAZE	1.5K	5%	1/8W	

< SWITCH >

REF.NO.	PART NO.	DESCRIPTION	REMARK
S081	1-571-532-21	SWITCH, TACTIL	
S082	1-571-532-21	SWITCH, TACTIL	
S083	1-571-532-21	SWITCH, TACTIL	

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*1-650-759-11 H2 BOARD
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< CONNECTOR >

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN1132	*1-568-882-51	PIN, CONNECTOR 7P	

< DIODE >

REF.NO.	PART NO.	DESCRIPTION	REMARK
D092	8-719-948-31	DIODE LD-201VR	
D093	8-719-948-31	DIODE LD-201VR	
D094	8-719-948-31	DIODE LD-201VR	

< IC >

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC091	8-741-101-75	IC SBX1610-11	

< RESISTOR >

REF.NO.	PART NO.	DESCRIPTION				REMARK
R091	1-249-413-11	CARBON	470	5%	1/4W	

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*A-1651-057-A J BOARD, COMPLETE
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< CAPACITOR >

REF.NO.	PART NO.	DESCRIPTION				REMARK
C281	1-124-119-00	ELECT	330MF	20%	16V	
C295	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C296	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C906	1-101-004-00	CERAMIC	0.01MF		50V	
C910	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C911	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C912	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C913	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C914	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C915	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C916	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C917	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C922	1-124-477-11	ELECT	47MF	20%	16V
C923	1-164-346-11	CERAMIC CHIP	1MF		16V
C924	1-124-477-11	ELECT	47MF	20%	16V
C925	1-124-477-11	ELECT	47MF	20%	16V
C926	1-164-346-11	CERAMIC CHIP	1MF		16V
C927	1-124-477-11	ELECT	47MF	20%	16V
C928	1-124-477-11	ELECT	47MF	20%	16V
C929	1-124-477-11	ELECT	47MF	20%	16V
C930	1-124-477-11	ELECT	47MF	20%	16V
C931	1-164-346-11	CERAMIC CHIP	1MF		16V
C932	1-164-346-11	CERAMIC CHIP	1MF		16V
		< CONNECTOR >			
CN1209	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P			
CN1210	*1-564-522-11	PLUG, CONNECTOR 7P			
CN1240	*1-564-519-11	PLUG, CONNECTOR 4P			
		< DIODE >			
D903	8-719-921-69	DIODE MTZJ9.1			
D904	8-719-921-69	DIODE MTZJ9.1			
D907	8-719-921-69	DIODE MTZJ9.1			
D908	8-719-921-69	DIODE MTZJ9.1			
D909	8-719-921-69	DIODE MTZJ9.1			
D910	8-719-921-69	DIODE MTZJ9.1			
D911	8-719-921-69	DIODE MTZJ9.1			
D912	8-719-921-69	DIODE MTZJ9.1			
D913	8-719-921-69	DIODE MTZJ9.1			
D914	8-719-921-69	DIODE MTZJ9.1			
D915	8-719-921-69	DIODE MTZJ9.1			
D916	8-719-921-69	DIODE MTZJ9.1			
D917	8-719-921-69	DIODE MTZJ9.1			
D924	8-719-921-69	DIODE MTZJ9.1			
D925	8-719-921-69	DIODE MTZJ9.1			
D926	8-719-921-69	DIODE MTZJ9.1			
D927	8-719-921-69	DIODE MTZJ9.1			
D928	8-719-921-69	DIODE MTZJ9.1			
D999	8-719-110-39	DIODE RD15ESB1			
		< JACK >			
J291	1-537-505-11	TERMINAL BOARD (2P)			
J903	1-561-534-41	SOCKET, PIN 21P			
J905	1-695-293-11	SOCKET 21P			
		< TRANSISTOR >			
Q281	8-729-920-74	TRANSISTOR 2SC2412K-QR			
Q282	8-729-920-74	TRANSISTOR 2SC2412K-QR			
		< RESISTOR >			
JR901	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR906	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR915	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR917	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR918	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR919	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR920	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR921	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR924	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR926	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR927	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR928	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR935	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR942	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR952	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR954	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR955	1-216-296-00	METAL GLAZE	0	5%	1/8W
JR956	1-216-295-00	METAL GLAZE	0	5%	1/10W
JR957	1-216-295-00	METAL GLAZE	0	5%	1/10W
R283	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R284	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R289	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R291	1-249-413-11	CARBON	470	5%	1/4W
R292	1-249-413-11	CARBON	470	5%	1/4W
R911	1-216-022-00	METAL GLAZE	75	5%	1/10W
R921	1-216-022-00	METAL GLAZE	75	5%	1/10W
R922	1-216-222-00	METAL GLAZE	10K	5%	1/8W
R923	1-216-039-00	METAL GLAZE	390	5%	1/10W
R924	1-216-039-00	METAL GLAZE	390	5%	1/10W
R925	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R926	1-216-039-00	METAL GLAZE	390	5%	1/10W
R927	1-216-039-00	METAL GLAZE	390	5%	1/10W
R928	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R929	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R930	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R931	1-216-212-00	METAL GLAZE	3.9K	5%	1/8W
R932	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R933	1-216-073-00	METAL GLAZE	10K	5%	1/10W
R934	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R935	1-216-022-00	METAL GLAZE	75	5%	1/10W
R936	1-216-022-00	METAL GLAZE	75	5%	1/10W
R937	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R938	1-216-039-00	METAL GLAZE	390	5%	1/10W
R939	1-216-188-00	METAL GLAZE	390	5%	1/8W
R940	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W
R941	1-216-113-00	METAL GLAZE	470K	5%	1/10W
R942	1-216-188-00	METAL GLAZE	390	5%	1/8W
R943	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R944	1-216-188-00	METAL GLAZE	390	5%	1/8W
R945	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R959	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W
R960	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W
R968	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R969	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R970	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W
R977	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W

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The components identified by shading and marked ⚠ are critical for safety.
Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS **************	
	⚠ 1-406-807-21	COIL, DEGAUSSING	
	⚠ 8-451-422-11	DEFLECTION YOKE (Y29GXA)	
	⚠ 1-452-509-11	NECK ASSY, PICTURE TUBE(NA-308)	
	1-544-728-11	SPEAKER	
	⚠ 1-690-270-21	CORD, POWER(WITH CONNECTOR) (KV-X2971B,X2973E)	
	⚠ 1-590-762-11	CORD, POWER(WITH PLUG) (KV-X2972U)	
	⚠ 1-751-680-11	CORD, POWER(WITH NOISE FILTER) (KV-X2971A,X2971D,X2971K)	
V901	⚠ 8-733-841-05	PICTURE TUBE (M68KZT10X)	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
		ACCESSORIES AND PACKING MATERIALS *********************************	
	4-202-606-11	MANUAL,INSTRUCTION (KV-X2971D) (GERMAN/ENGLISH//DUTCH/GREEK)	
	4-202-606-41	MANUAL,INSTRUCTION (KV-X2971A)(ITALIAN)	
	4-202-606-51	MANUAL,INSTRUCTION (KV-X2971B) (GERMAN/FRENCH/ITALIAN)	
	4-202-606-61	MANUAL,INSTRUCTION (KV-X2972U)(ENGLISH)	
	4-202-606-71	MANUAL,INSTRUCTION (KV-X2973E)(SPANISH)	
	4-202-606-81	MANUAL,INSTRUCTION (KV-X2973E) (FRENCH/DUTCH/SWEDISH/DANISH/GERMAN FINNISH/NORWEGIAN/PORTUGUESE)	
	4-202-606-91	MANUAL,INSTRUCTION (KV-X2971K) (GERMAN/ENGLISH/RUSSIAN/HUNGARIAN/POLISH)	
	*4-039-906-01	BAG, PROTECTION	
	*4-042-127-01	CUSHION (UPPER) (ASSY)	
	*4-042-126-01	CUSHION (LOWER) (ASSY)	
	*4-042-128-01	INDIVIDUAL CARTON	
		REMOTE COMMANDER ****************	
	1-467-272-11	COMMANDER,STANDARD TYPE(RM-831)	
	9-903-466-01	POCKET COVER (FOR RM-831)	

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